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The ATOM
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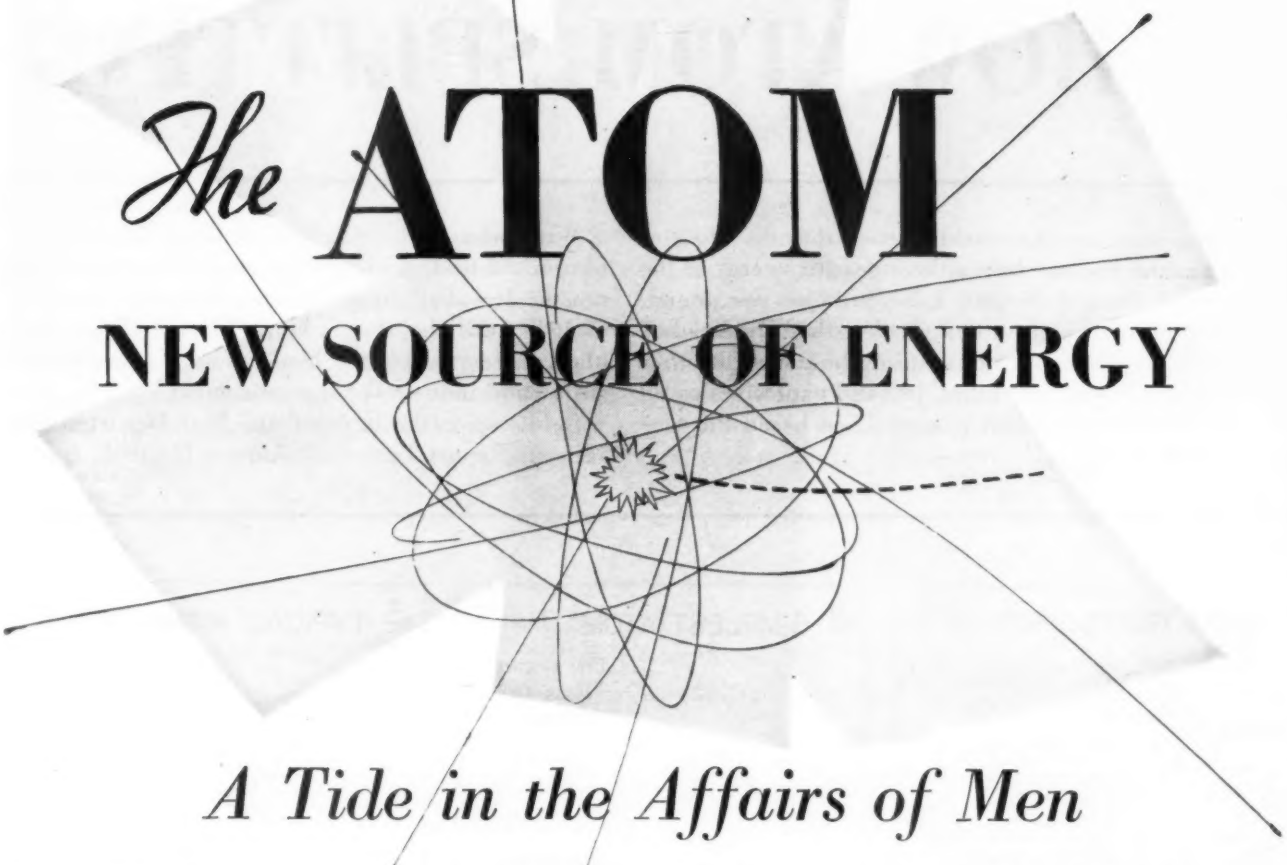

A Tide in the Affairs of Men

On August 6, 1945, an atomic bomb exploded over the Japanese city, Hiroshima.

Its concussion blasted the city, vaporized the fibre of Japan's will to resist, and flashed across the world a light of such glaring intensity that even blind eyes could glimpse the forked road that is presented to humanity's choice and destiny.

It has been a scant fifty years since Pierre and Marie Curie embarked upon their research with the avowed intent of discovering "how the atoms of the universe are put together". Their work contributed radium to the knowledge and use of mankind, but it marked only a way station upon the awesome quest which they announced and which thousands of scientists have since pursued.

Under the compelling stimulus of war, the first major application of the release of atomic force has been in an instrument that raises by an unimaginable dimension our ability to dole out death. We can be devoutly grateful that the scientific leadership of the Allies, and particularly the industrial strength of the United States, brought to us, rather than to our enemies, priority in the development of this dread weapon. But even in its present infant phase, it is clear that ownership of the principle of the atomic bomb carries a trusteeship of terrifying gravity.

We hold in trust a power that is capable of unraveling the very fabric of our civilization. Equally, it may be susceptible of development as a mighty force for human welfare. But we have proved the destructive use, while the constructive applications are still in the realm of speculation.

Clearly the trust is of a magnitude that transcends national jurisdiction. No walls have ever been built high enough to fence in the spread of scientific knowledge, and even if we were resolved to forego the harnessing of atomic power for peace, it is hopeless to think that its application for war can be held for long as the monopoly of one, or a small group of nations.

At one giant stride our scientific and technological development has so far outdistanced our social engineering, that we have no choice but to turn our full powers of creative imagination to control the forces we have unleashed and to bend them to man's use rather than to his destruction.

Since control is not possible without understanding, I have asked several of my editorial colleagues in the McGraw-Hill organization to present on the pages which follow a non-technical but authoritative account of the known facts and implications of atomic power.

James H. McGraw, Jr.

President, McGraw-Hill Publishing Co., Inc.

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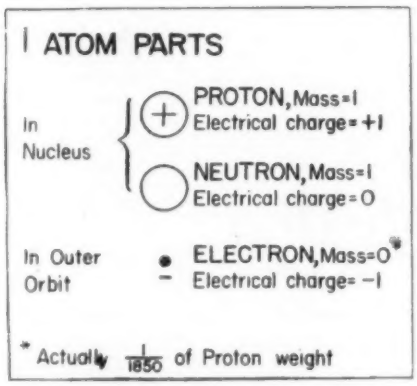
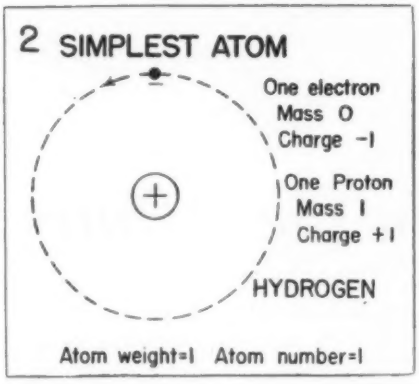
HOW ATOM SPLITTING

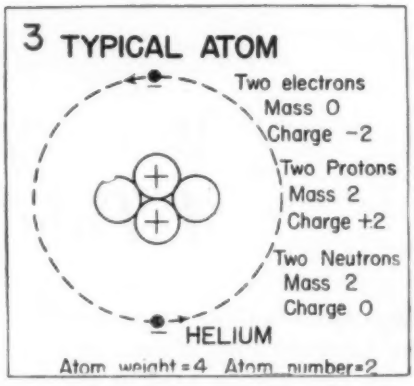
Five years ago the world learned that the atom of Uranium 235 had been split, releasing energy at the rate of about 11,400,000 kilowatt-hours per pound. The whole amount tested was less than the head of a pin, but there was no escaping the possibility that heaters, engines, turbines, jets and explosives could be powered by atomic energy. Then began the race to win the war with atoms.

With what help England could give, America outran the best atom-splitting team Germany could muster. It was all done in silence. From the summer of 1940 until the atomic bomb blasted Hiroshima, black secrecy blanketed history's most amazing scientific and industrial accomplishment.

Coldly scientific in form, the War Department's "Smyth Report," released August 12, 1945, traces

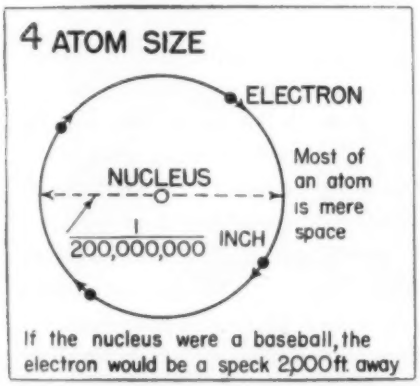


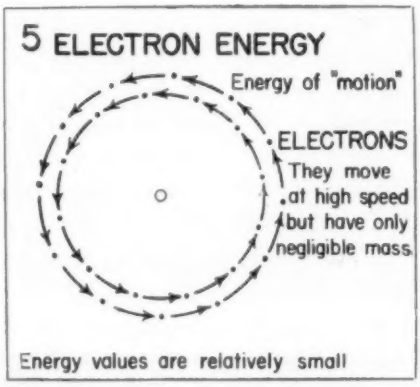


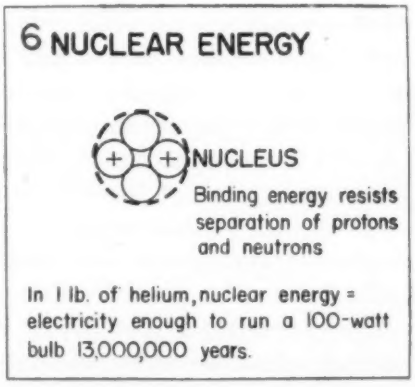


Each of the 92 elements has its own *atom*, yet all atoms are made from the same three pieces, Fig. 1: *proton* (weight 1, electric charge +1), *neutron* (weight 1, charge 0), *electron* (weight 0, charge −1).

Every atom is a tiny "solar system." Its central "sun" has one or more protons, generally neutrons too. The revolving "planets" are electrons, one for each proton in nucleus, because plus and minus must balance in the atom. The opposite charges attract, but high speed keeps the electrons out in their circular orbits, just as the centrifugal tendency of the revolving earth defies the sun's gravitational pull. All the weight of an atom is in the nucleus, so add the number of protons and neutrons to get the atom's weight. The *atomic number* is equal to the number of protons. The elements are known by their atomic numbers. Thus uranium (92 protons) is element 92.


4 ATOM SIZE
ELECTRON
NUCLEUS
1/200,000,000 INCH
Most of an atom is mere space
If the nucleus were a baseball, the electron would be a speck 2,000 ft away


5 ELECTRON ENERGY
Energy of "motion"
ELECTRONS
They move at high speed but have only negligible mass
Energy values are relatively small


6 NUCLEAR ENERGY
NUCLEUS
Binding energy resists separation of protons and neutrons
In 1 lb. of helium, nuclear energy = electricity enough to run a 100-watt bulb 13,000,000 years.

With only their outermost orbits touching, it would take half a million atoms to span the thickness of a human hair. Yet if one could expand an atom until its outer orbits encircled 100 acres, the nucleus would be no bigger than a baseball. The atom is mostly empty space, Fig. 4, and nuclei are difficult targets; so much so that a neutron bullet fired at a mass of atoms may pass right through without a hit.

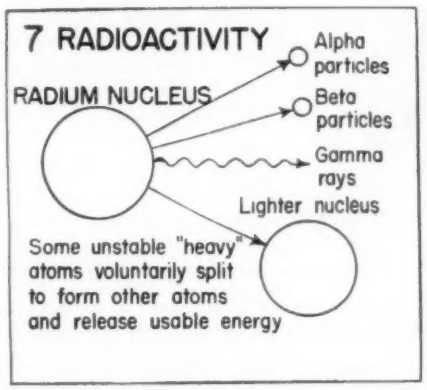
The almost weightless speeding electrons, Fig. 5, supply all the energy of chemical reactions (as when coal burns or TNT explodes). Evading all ordinary chemical action, the immensely greater energy bound up in the nucleus, Fig. 6, can be released only by direct hits on the nucleus to break the bonds that hold the protons and neutrons in a tight bundle.

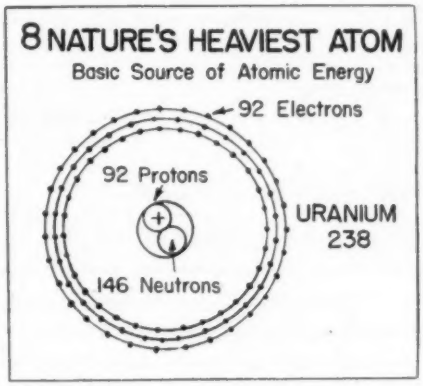
RELEASES ENERGY

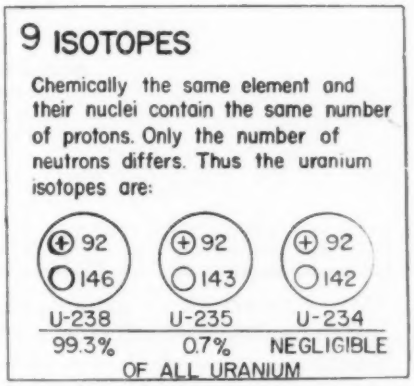
the fantastic course of atomic engineering through the five years of news blackout. It leaves no doubt that only a complete mobilization of America's technical resources could have won this victory in time.

Other writers in other places will unfold the epic story. This presentation leaves no space to reflect the glory of the accomplishment or even to record its history. The aim is more immediately practical — to give the professional and business readers of the McGraw-Hill publications a sound and honest, though non-technical, understanding of this atom-smashing business, so that they will know better what to do about it in their personal and business lives.

Now for step one: learning the shape of atoms and how atom splitting releases energy.

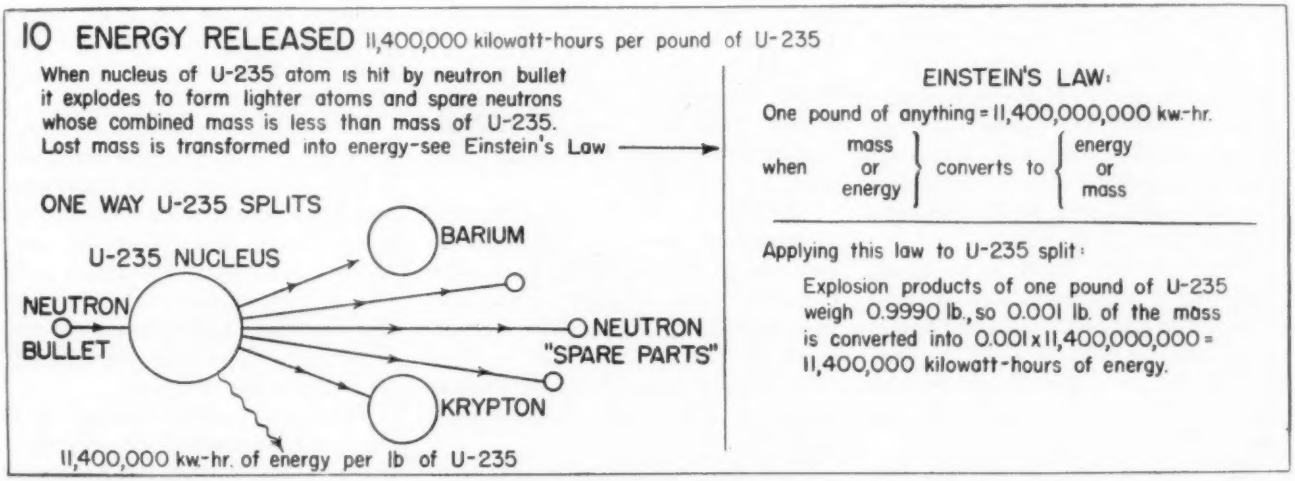






Radium nucleus, Fig. 7, automatically emits particles and energy as it decays to form nuclei of a lighter atom. Most common form of uranium, nature's heaviest atom, is Uranium 238, Fig. 8. This form is not directly useful for energy release, but is important as the raw material for a new synthetic power atom, *plutonium*.

An element may have several *isotopes* — alternate forms with the same number of protons but slightly different numbers of neutrons. Uranium 238 is the isotope in which protons and neutrons total 238 (so atom weight is 238). It is 99.3% of the total weight of pure, natural uranium. The stuff needed for direct atomic-energy release is Uranium 235, only 0.7% of the total weight and very difficult to separate from 238. To put it another way, every pound of energy-giving U-235 comes mixed with a dead load of 140 pounds of relatively inert U-238.


10 ENERGY RELEASED 11,400,000 kilowatt-hours per pound of U-235
When nucleus of U-235 atom is hit by neutron bullet it explodes to form lighter atoms and spare neutrons whose combined mass is less than mass of U-235. Lost mass is transformed into energy-see Einstein's Law
ONE WAY U-235 SPLITS
U-235 NUCLEUS
NEUTRON BULLET
BARIUM
NEUTRON "SPARE PARTS"
KRYPTON
11,400,000 kw-hr. of energy per lb of U-235
EINSTEIN'S LAW:
One pound of anything = 11,400,000,000 kw-hr.
when mass or energy converts to energy or mass
Applying this law to U-235 split:
Explosion products of one pound of U-235 weigh 0.9990 lb., so 0.001 lb. of the mass is converted into 0.001 x 11,400,000,000 = 11,400,000 kilowatt-hours of energy.

Slow neutron bullet splits Uranium 235 nuclear target, generating two lighter atoms (Fig. 10 shows one possibility) and several free neutrons ready to split other U-235 atoms. The following pages show how the original neutron may be produced and directed and how a chain of self-propagating atomic explosions may sweep through a block of U-235 like a forest fire to release heat energy equivalent to 11,400,000 kilowatt-hours per pound.

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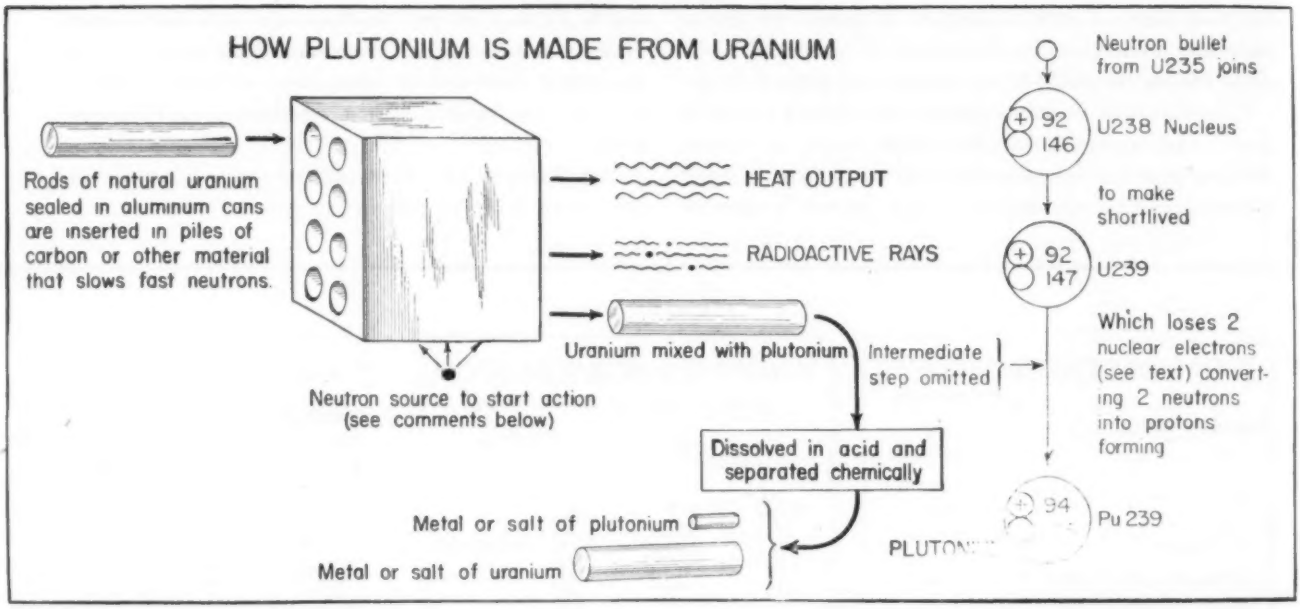
CREATING and ISOLATING

Man-Made Plutonium—U-235 Substitute


HOW PLUTONIUM IS MADE FROM URANIUM
Rods of natural uranium sealed in aluminum cans are inserted in piles of carbon or other material that slows fast neutrons.
HEAT OUTPUT
RADIOACTIVE RAYS
Uranium mixed with plutonium
Neutron source to start action (see comments below)
Intermediate step omitted
Dissolved in acid and separated chemically
Metal or salt of plutonium
Metal or salt of uranium
Neutron bullet from U235 joins
92 146 U238 Nucleus
to make shortlived
92 147 U239
Which loses 2 nuclear electrons (see text) converting 2 neutrons into protons forming
94 Pu 239

We now have two kinds of atoms suitable for energy supply, Uranium 235 and the new man-made element No. 94, plutonium. Uranium, No. 92, has the heaviest atom of any natural element.

The Manhattan Project's plant, on the Columbia River at Hanford, Washington, is the world's greatest atom-making factory. Devoted entirely to the mass production of plutonium atoms, it uses U-238 as the raw material and U-235 as the energy source, intimately mixed in the same proportions as in natural uranium metal.

The production units at Hanford are several huge uranium "piles." Each is a very large block of graphite with holes in which are placed uranium-metal cylinders, sealed in aluminum cans to protect the uranium from corrosion by the cooling water constantly pumped through the pile.

Each pile runs itself, so to speak. Not even the conventionally pictured bits of radium, beryllium and paraffin are needed as a "pilot light" to start operation. There are always enough stray neutrons, or even cosmic rays, to start a chain reaction.

But once started, the design, size and control of the unit must be such that the chain reaction will continue at an even rate — neither die down nor overshoot into an explosion.

To see this picture in atomic terms, consider the fraction of a second in which one million U-235 nuclei are split, producing two million lighter atoms (say, one million of barium and one million of krypton) and between one and three million fast-moving neutron projectiles.

Some of these escape in free flight right through the relatively vast atomic "open spaces." Some are "captured" by the many U-238 nuclei, and others are captured by the impurities. But, on the average, of the one to three million, just one million neutrons must succeed in smashing another million U-235 atoms in the next fraction of a second. Thus, with reproduction rate exactly maintained, life goes on in the atomic-energy pile.

The carbon, one of several possible "moderators," serves to slow down the neutrons without capturing many. The chance of a fast, straight-moving neutron hitting a tiny nucleus is very small, whereas the "slow ball" neutron is likely to be sucked in by the nuclear attraction if it would otherwise be a near miss.

From the practical angle, maintaining a chain reaction requires careful design and good controls. The pile must be slightly larger than actually necessary for a chain reaction (that means scores of tons of material). Controls must be sensitive and dependable. They slow the pile down to the balancing point by sliding in retarders, such as strips of cadmium.

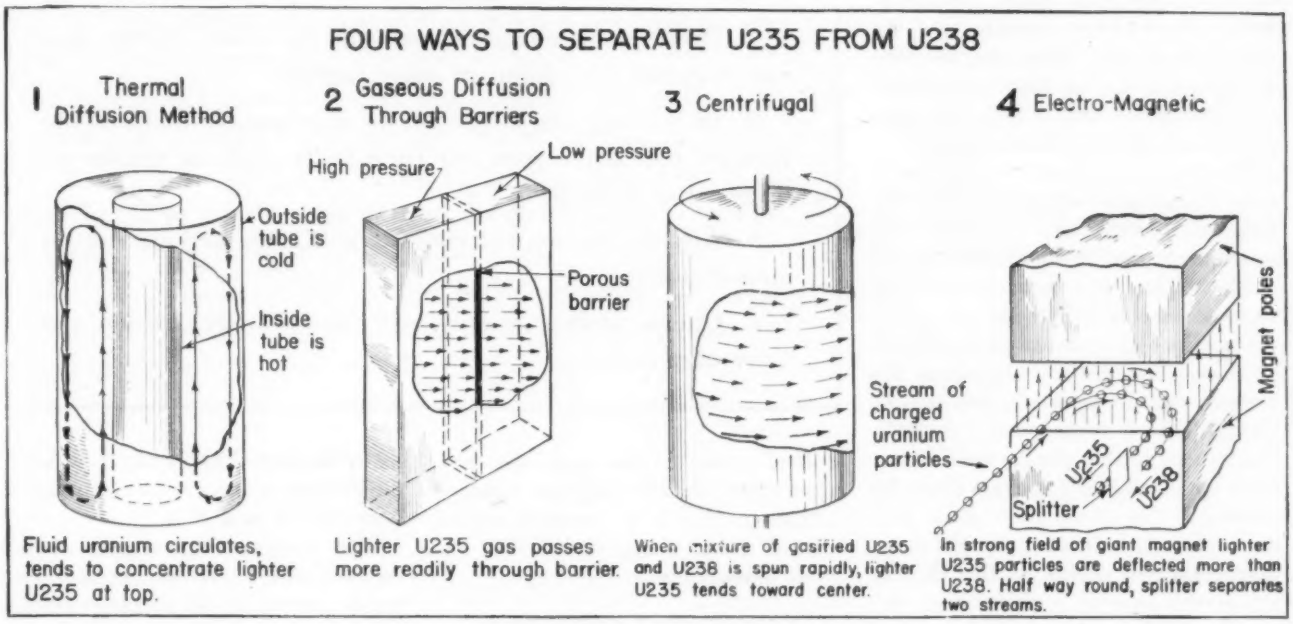
As already noted elsewhere, the energy released is about 11,400,000 kilowatt-hours for each pound of U-235 split. This energy appears first in the high speed of the pieces thrown off by the atomic split, then is converted to sensible heat as collisions slow down these projectiles. The energy is finally removed from the pile in the form of hot air, steam, hot water or other heated fluid in commercial quantity and thermal condition.

Such piles, operated with normal uranium, or with uranium enriched in U-235, would seem to be the primary means by which atomic energy will serve (if ever) as a commercial source of heat and power. Plutonium would be a byproduct, but might under certain conditions add to the energy yield of the pile without the need to separate it from the uranium.

The use of normal uranium in the Hanford pile sounds extremely attractive as a heat source, but has certain economic disabilities. Only a small part of the U-235 is used up before the pile must be shut down to remove the plutonium.

THE HIGH-POWER ATOMS

Isolating U-235 — a Gigantic Task


FOUR WAYS TO SEPARATE U235 FROM U238
1 Thermal Diffusion Method
2 Gaseous Diffusion Through Barriers
3 Centrifugal
4 Electro-Magnetic
Outside tube is cold
Inside tube is hot
High pressure
Low pressure
Porous barrier
Stream of charged uranium particles
U235
U238
Splitter
Magnet poles
Fluid uranium circulates, tends to concentrate lighter U235 at top.
Lighter U235 gas passes more readily through barrier.
When mixture of gasified U235 and U238 is spun rapidly, lighter U235 tends toward center.
In strong field of giant magnet lighter U235 particles are deflected more than U238. Half way round, splitter separates two streams.

Many of the uranium ores, including most samples of pitchblende and carnotite, will yield from 1 to 15% metallic uranium. Chemical separation of the metallic "natural" uranium is simple. Whatever the source, natural uranium contains the three isotopes in the constant proportions of 99.3% U-238 and 0.7% U-235, with traces of U-234.

Separating the U-235 from U-238, an operation essential for explosive uses of U-235, and probably important for future commercial controlled-chain piles, has been most difficult. Chemical separation was impossible because U-235 and U-238 are chemically the same.

The only possibility was a separation by physical differences, primarily a one percent difference in weight. The porous barrier and centrifugal methods pictured above required vaporizing a salt of uranium. All the methods shown have been used or tried on the Manhattan Project. All require many stages to achieve a substantial concentration of Uranium 235.

Dollarwise Thoughts on Atomic Energy

Costs mean little in war, but peacetime uses of U-235 and plutonium must pass the dollar test in competition with coal, fuel oil, natural gas, gasoline and electricity.

On the basis of energy costs only, "*all other things being equal,*" the table on the last page of this section shows at what price per pound U-235 would give the same energy cost as conventional energy sources selling at the indicated prices. For such comparisons it is convenient to remember that one pound of U-235 is equal (energy-wise) to about 11,400,000 kilowatt-hours, also to 1500 tons of coal, or 200,000 gallons of gasoline.

Fuel engineers understand the limitations of such oversimplified comparisons. Others should be warned that "all other things" are never equal. With this thought in mind, reconsider the uranium piles operated at Hanford to produce plutonium. These use U-235 in the cheapest form, say about $1400 per lb., assuming purified normal uranium at $10 per lb. (140 lb. of uranium contains one pound of U-235.)

If this were the whole story, coal would have to sell for a dollar a ton to break even with U-235 as a water heater. However, the pile using normal uranium must be immense to hold its own in a chain reaction. More important, the accumulating fission products "poison" the reaction after only a small part of the U-235 has been used up. Then the uranium cylinders must be removed for plutonium recovery. Finally, it has not yet been found possible to operate the normal-uranium piles at high enough temperatures for practical power production.

If we go to the other extreme and build a small pile, using concentrated U-235, we shall run into excessive material costs, perhaps several times the $52,000 per lb. set down in the table as the equivalent of 20-cent gasoline.

Something between the two extremes is likely to prove the most economical — perhaps a pile operating on a U-235 concentration between 1 and 10%.

The engineer of the "atomic-power age" must know the price of Uranium 235 *in various concentrations* and the characteristics of piles suited to them. No such information is yet available. He must also watch the danger from radio-activity; the requirements for radiation shields; explosion hazards. etc.

CONTINUED ON NEXT PAGE

WHAT TO EXPECT

Before discussion of possible and probable future applications of atomic energy to the arts of peace, the atomic bombs should have consideration. We may assume that these bombs contained from two to 200 lb. of either U-235 or plutonium, or both. No more precise information is available.

Details of the bomb design have been completely suppressed, but the following basic considerations are stated or implied in the Smyth Report:

The explosive in a bomb must be highly concentrated U-235 or plutonium. Since slow neutrons could not produce a satisfactory explosion, the neutron retarder or *moderator*, is minimized. This, in turn, requires a U-235 mass so large that the escape of neutrons without hitting nuclei will not be excessive. For every 1000 atoms hit, the neutrons produced must split more than 1000 new atoms, so that the reaction will proceed rapidly in an expanding chain, as sketched below.

There can be little leeway in the size of the explosive charge. For a given shape there is a certain "critical" weight of material. If this is exceeded the bomb explodes instantly. If the weight of charge is less than the critical, it cannot be made to explode.

Therefore, the critical mass must be created at the moment of explosion.

The Smyth Report suggests that this can be accomplished by breaking down the charge into two or more well-separated parts, each having less than the critical mass. At the appointed moment these could be brought together within the bomb to create a supercritical mass, which would then explode automatically.

CLAIMS LIKE THESE ARE NOT JUSTIFIED

1. Pretty soon no more coal will be mined except as a raw material for chemical manufacture.

2. In a few years a tiny bit of uranium, built in at the factory, will drive your car for life through an engine no bigger than your fist.

3. All the big central stations will soon be running on atomic power.

4. Cheap atomic energy will enormously reduce the price of power.

Peacetime Applications

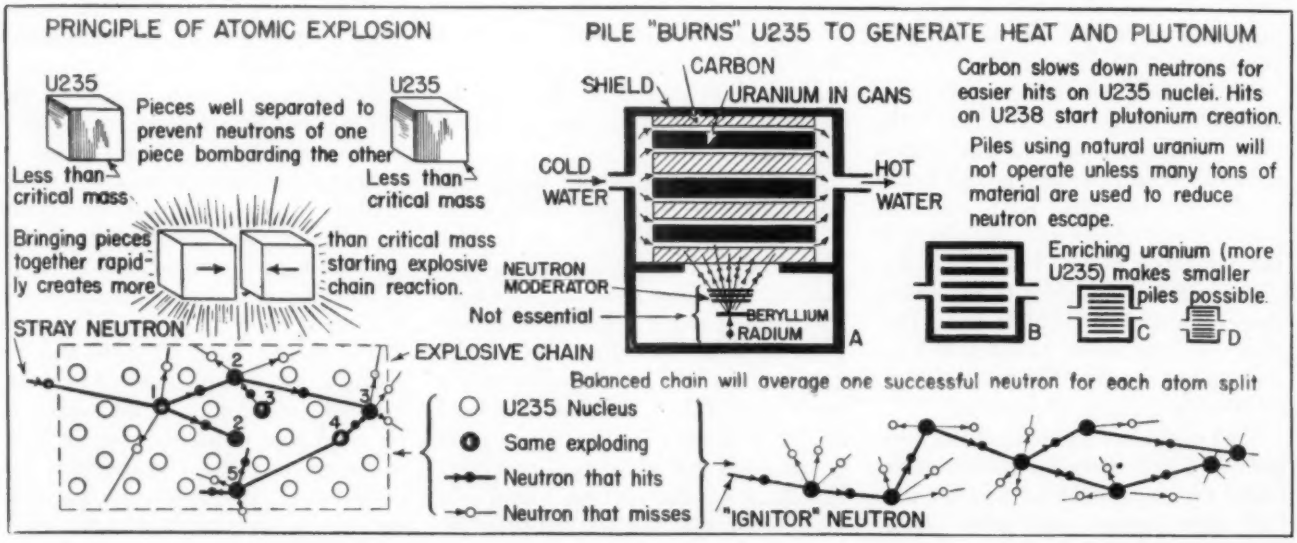
Except possibly for superblasting operations, uncontrolled explosive reactions cannot be permitted in the peacetime use of atomic energy. This means that the quantity of U-235 assembled in any one spot must always be kept well below the critical weight to avoid spontaneous explosion.

Depending on the particular application, the most desirable concentration of U-235 may range anywhere from the 0.7% in normal uranium up to 100%, with the probability that many industrial applications will find the greatest economy in concentrations between 1% and 15%.

This matter of the degree of concentration of U-235 has received little public attention, yet nothing could be of greater practical importance. To make this point clear, consider the two extremes, 0.7% of U-235 and 100% of U-235, respectively.

The Hanford pile, using normal uranium (0.7% U-235) with carbon moderator, must be very large to work at all. It is inefficient in the sense that it must be shut down after a small part of the U-235 has been consumed. It cannot operate at high temperatures.

Its great advantage as a heat producer is the fact that its U-235 is bought at the lowest possible price. If


PRINCIPLE OF ATOMIC EXPLOSION
U235
U235
Pieces well separated to prevent neutrons of one piece bombarding the other
Less than critical mass
Less than critical mass
Bringing pieces together rapidly creates more than critical mass starting explosive chain reaction.
STRAY NEUTRON
EXPLOSIVE CHAIN
PILE "BURNS" U235 TO GENERATE HEAT AND PLUTONIUM
SHIELD
CARBON
URANIUM IN CANS
COLD WATER
HOT WATER
NEUTRON MODERATOR
Not essential
BERYLLIUM
RADIUM
A
Carbon slows down neutrons for easier hits on U235 nuclei. Hits on U238 start plutonium creation.
Piles using natural uranium will not operate unless many tons of material are used to reduce neutron escape.
Enriching uranium (more U235) makes smaller piles possible.
B
C
D
Balanced chain will average one successful neutron for each atom split
U235 Nucleus
Same exploding
Neutron that hits
Neutron that misses
"IGNITOR" NEUTRON

FROM ATOMIC ENERGY

...BUT REMEMBER THESE FACTS

1. The large-scale, controlled release of heat energy from U-235 has been fully demonstrated.

2. Beyond question, this energy could be applied directly for heating water and air, and making steam.

3. Such heat, in turn, could be applied directly, or converted into mechanical power or electricity by conventional steam turbines and gas turbines.

4. If and when U-235 in concentrations up to 10% costs less than $25,000 per lb., it may find applications, but will compete, at first, with premium fuels rather than coal.

purified normal uranium sells for, say, $10.00 per lb., the price of 140 lb. (containing one lb. of U-235) will be only $1400. This would be a very favorable price if the pile could operate efficiently with the 0.7% U-235.

Concentrating the U-235 to 100% would permit a much more compact and convenient pile — perhaps little more than small pieces of U-235, encased in aluminum to ward off corrosion, and immersed in a tank of water; this should convert the water into steam at a regulated rate.

In large part, the control would be inherent. The water as a moderator would keep the chain going, but if the reaction got too violent, the resulting higher superheating of the steam would decrease the moderator effect and thereby hold the reaction in check. Yet even if all this comes true the cost of concentrated U-235 in the near future will be many times $10,000 per lb.

Running up the concentration only a few percent above that in normal uranium may prove to be the way to get reasonable pile size and good efficiency without incurring exorbitant concentration costs.

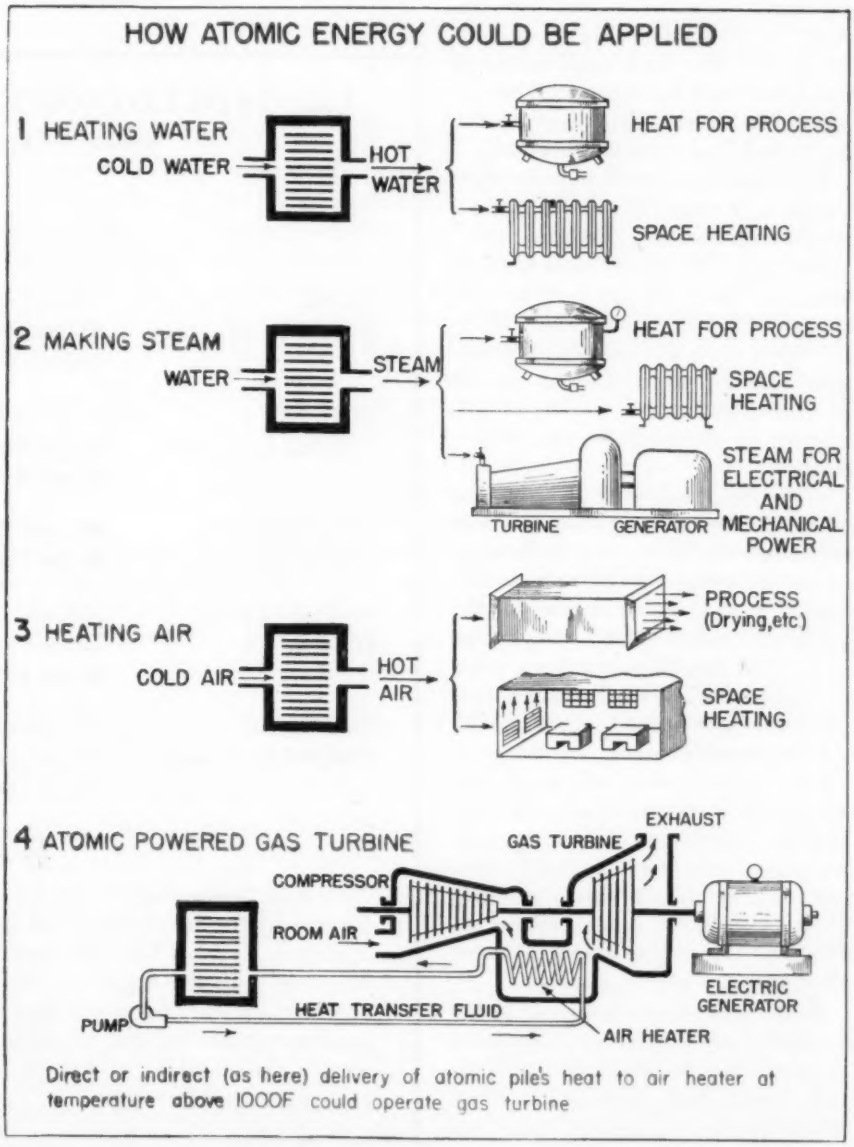
When atomic energy is applied, the starting point is heat, picked up by water, air or a special heat-transfer fluid. Intermediate heat transfer fluids may be essential in certain applications (space heating and service water, for example) where people must be protected from injury by radioactivity.

The intermediate heat-transfer fluid shown for the gas turbine would, of course, have to operate at temperatures up to 1200 F. There seems to be no basic reason why the pile itself could not be built inside the compressed-air receiver, discharging its heat directly to the compressed air.

With rather high concentration of U-235, this arrangement might be suitable for large airplane drive if excessive weight of radiation shields could be avoided.

Also, presumably, rockets and planes of the "buzzbomb" type could be powered by atomic heat delivered to the air of the jet steadily, not in puffs.

The sketches stress direct applica-



Direct or indirect (as here) delivery of atomic pile's heat to air heater at temperature above 1000F could operate gas turbine

THESE THINGS MIGHT RESTRICT USE OF ATOMIC ENERGY

1. Ineffectiveness of large piles using normal U-235 concentration

2. High cost of concentrated U-235 for smaller, more effective piles

3. Danger from radioactivity

4. Weight and cost of shielding against radiation

5. Explosion hazard

6. Possible short supply of uranium

7. Governmental restrictions on atomic-energy materials

tions of hot air, steam and hot water to process and space heating. This emphasis is justified by the often overlooked fact that such applications of heat have many times the total energy value of all the electricity generated in the United States for all purposes.

There has been much popular speculation regarding the type of engines required for atomic-power generation. The answer is simple. Present engines, steam turbines and gas turbines can be used with little or no change. This, of course, does not rule out the possible discovery of specialized engines for atomic power, or even direct production of electricity from atomic energy.

In the long run the implications of atomic power are staggering for both war and peace. However, popular writers on the subject have undoubtedly created unreasonable hopes in the minds of readers — for example, the expectation that in two or three years the Detroit builders will market cars with built-in "lifetime" slugs of U-235 and "fist-sized" engines.

Yet it seems fairly safe to predict that atomic energy will find some commercial applications within the next five or ten years, first, probably, as a premium fuel like aviation gasoline, worth a fancy price for specialized applications where low weight or some other characteristic is important.

As the cost of concentrating U-235 is reduced and application efficiencies improved, atomic energy may compete with cheaper fuels, perhaps ultimately with coal.

Important non-power applications of atomic energy may well include the ultra-high-temperature processing and fabricating of materials — also, modern "alchemy": building and rebuilding atoms to create new elements and to produce old elements at lower costs.

Radioactivity obtained directly or indirectly from artificial atom-splitting should find many important medical and industrial applications.

Turning back to ordinary power applications, we must avoid the temptation to overstress the economic importance of lower-cost power fuel. Fuel cost is only about 17% of the gross receipts of the electric utilities. Here's another way to put it: If, after allowing for transmission losses, one kilowatt-hour delivered to the consumer from modern plants represents a coal consumption of 1.5 lb., and if the coal costs $5.00 per ton cancellation of the coal bill could not save more than 3/8 of a cent per killowatt-hour. And atomic fuel will certainly not be free.

Performance of the atomic bomb is a monument to the scientists who unlocked the secrets of the atom and suggested the basic technique of making plutonium and concentrating U-235.

From there on, the job was at least 50% engineering. The various big plants of the Manhattan Project are vast assemblages of pipes, tanks, boilers, valves, instruments and controls, installed and operated by engineers, largely designed by engineers. From now on, the speed with which atomic power becomes practical will depend on the effectiveness of the engineer-scientist team.

It is possible, of course, that national controls may completely upset the entire technical and economic pattern of this discussion. For reasons of national security the government may decide to control or restrict atomic-power materials, plants and operations in ways not yet determined.

U-235 COULD COMPETE AT THESE PRICES

other things being equal

Common fuel	*Assumed prices*	*Comparable prices for Uranium 235, dollars per pound (nearest thousand)*
COAL (13,000 B.t.u.)	$6 per ton	$9,000
	$12 per ton	$18,000
	$15 per ton	$23,000
FUEL OIL (150,000 B.t.u. gal.)	2¢ per gal.	$5,000
	4¢ per gal.	$10,000
	8¢ per gal.	$20,000
CITY GAS (500 B.t.u.)	50¢ per 1000 cu. ft.	$39,000
	$1 per 1000 cu. ft.	$78,000
NATURAL GAS (1000 B.t.u.)	25¢ per 1000 cu. ft.	$10,000
	50¢ per 1000 cu. ft.	$20,000
	$1 per 1000 cu. ft.	$40,000
GASOLINE (150,000 B.t.u. gal.)	10¢ per gal.	$26,000
	20¢ per gal.	$52,000
	30¢ per gal.	$78,000

BUT

Note that "other things" are never equal. U-235 in normal uranium form is by far the cheapest, but involves use of excessively large and inefficient "piles." The unit cost of the U-235 in enriched mixtures increases with the degree of enrichment. Over-all cost comparisons can be made only for a specified concentration of U-235 and for apparatus suitable for that particular concentration. Possible explosion danger and need to protect personnel against radiation are other important considerations.

TIMES and TRENDS

6th National Lighting Show IN PRINT

If an impartial but well qualified jury were to list the various product groups of the electrical industry in the order of their post-war sales opportunities, we would find lamps and lighting equipment probably listed as second only to appliances. And then only from the standpoint of dollar volume, for in units, lighting probably would draw first place.

Sales opportunities in lighting equipment also mean sales opportunities in conduit, wire, cable, fittings and wiring devices for 1946 lighting standards cannot be achieved without rewiring all pre-1940 installations. Thus the outstanding prospects for lighting indicate also an equally bright outlook for those products.

While the sudden but complete victory over Japan has pitched us with equal suddenness into the post-war era, it seems to us a fortunate circumstance that the Annual Lighting Show IN PRINT of WHOLESALER'S SALESMAN had long been in course of preparation. Therefore it could be presented to our industry almost at the very moment when relaxation of practically all important wartime restrictions gave the green light to the manufacturers.

We believe that the factual data, sales-promoting articles, the mass of pictures of typical or interesting installations and, last but not least, the great volume of instructive and action-provoking advertisements of manufacturers presented in this issue, constitute collectively a sales tool of unsurpassed value to all sales men who wish to travel the road to more and better profits via the lighting route.

★

Wholesalers Too Are Reconverting The mail brings us almost daily news reports and pictures of "first" washers, "first" refrigerators, "firsts" of all sorts of appliances to come off those production lines that not so very long ago were turning out exclusively products for our war effort. The list of plants now already reconverted to peace production constitutes an impressive tribute to the ingenuity and resiliency of that part of the electrical industry which had to do some actual converting in order to meet the needs of war.

When it is remembered that in addition hundreds of other electrical manufacturers merely turned existing machinery to making items needed for the war and now simply need to turn the same equipment back to making peace-time products it will become apparent that electrical products of all sorts may be expected to be in free supply sooner perhaps than those of any other industry.

Without the benefit of publicity experts, without news releases, promotions, photographers, unsung and undramatized, electrical wholesalers in all parts of the country evidently foresaw the rapid reconversion of its suppliers. They began even long before V-E Day to reconvert and where necessary to improve and enlarge their plant and equipment in order to be ready for the new demands that reconversion to a peace economy would bring.

For the better part of two years, by mail, telephone and telegraph we have received frequent and urgent requests for assistance in planning new warehouse buildings, extensive additions, or re-shuffling of present stock rooms. Not infrequently the demand was for an expert to be sent forthwith for consultation and advice, and—we hear, that most of the plans made since, have been executed.

We are fully convinced that the electrical wholesalers of the country today are ready, able, and willing to provide very economical, highly efficient selling and warehousing service for all those manufacturers who desire to obtain efficient national distribution at reasonable cost.

★

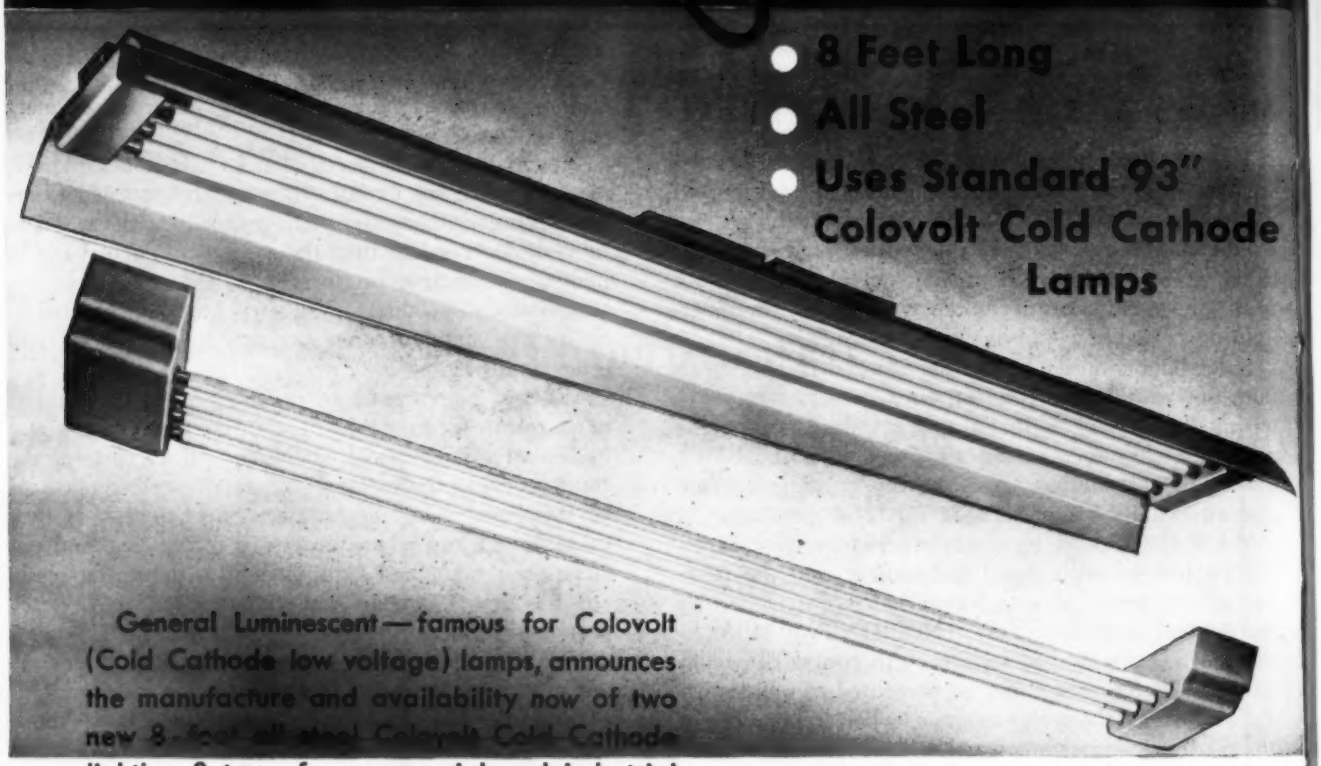
Cover Our four-color cover picture shows one phase of the testing procedure of fluorescent tubes as practiced by the production department of Sylvania Electric Products, Inc. The cooperation we received from members of Sylvania's staff in obtaining this interesting Kodachrome for our use is sincerely appreciated.

(*Continued on page* 59)

Now!

*COLOVOLT

COLD CATHODE FIXTURES



- 8 Feet Long
- All Steel
- Uses Standard 93" Colovolt Cold Cathode Lamps

General Luminescent—famous for Colovolt (Cold Cathode low voltage) lamps, announces the manufacture and availability now of two new 8-foot all-steel Colovolt Cold Cathode lighting fixtures for commercial and industrial applications in a standard "packaged" unit.

Both of these fixtures use standard 93" Colovolt 10,000 hour lamps and can be used singly or in continuous line lighting in multiples of 8 feet. Instantaneous starting, no flickering, guaranteed for 1 year except for failure due to breakage, and the fact that the long life expectancy of Colovolt lamps may be realized even when constantly turned on and off, are additional advantages.

Contact your electrical wholesaler or jobber or write us for full details.

Above

INDUSTRIAL UNIT—The Industrial Fixture, designed to give the maximum of lighting efficiency has an all-steel 8-foot baked white enamel reflector which is easily removed for cleaning. Four lamp fixture delivers 8800 lumens. Also available in a two-lamp fixture.

Below

SIMPLICITY UNIT—The "Simplicity" Lighting Unit for commercial uses is distinctive in design, easy to install and simple to maintain. This 4-lamp fixture delivers 8800 lumens.

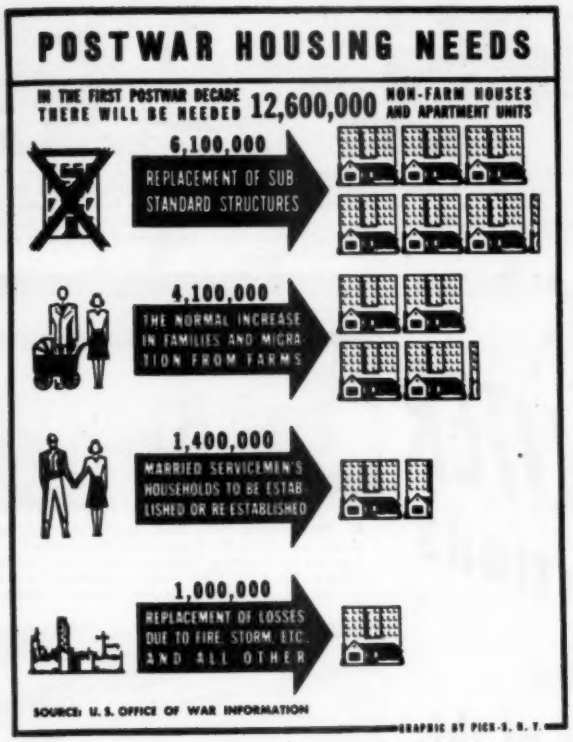
* Trade Mark registered U. S. Pat. Off.

General LUMINESCENT CORPORATION

GENERAL LUMINESCENT CORPORATION

648 SOUTH FEDERAL STREET • CHICAGO 5, ILLINOIS

(*Continued from page* 55)


POSTWAR HOUSING NEEDS
IN THE FIRST POSTWAR DECADE THERE WILL BE NEEDED 12,600,000 NON-FARM HOUSES AND APARTMENT UNITS
6,100,000
REPLACEMENT OF SUB STANDARD STRUCTURES
4,100,000
THE NORMAL INCREASE IN FAMILIES AND MIGRATION FROM FARMS
1,400,000
MARRIED SERVICEMEN'S HOUSEHOLDS TO BE ESTABLISHED OR RE-ESTABLISHED
1,000,000
REPLACEMENT OF LOSSES DUE TO FIRE, STORM, ETC. AND ALL OTHER
SOURCE: U. S. OFFICE OF WAR INFORMATION

★

Credit Last month, August, we presented a symposium under the title: *"Know How to Help Them Start Right And Take Your Pay-Off In Orders."*

The majority of illustrations published in the different parts of that symposium were obtained from the photograph files of *Electrical Merchandising,* another McGraw-Hill publication.

Belatedly, we express our sincere appreciation of the cooperation extended by L. E. Moffatt, editor of *Electrical Merchandising,* in permitting us to draw freely on that publication's files for usable photographs.

Atomic Energy News that man finally had wrested from nature one of its most precious secrets came to the world via the breath-taking report of the virtual destruction of the Japanese city, Hiroshima, by an atomic bomb. The results of applying this strange force to the prosecution of a war were so overwhelmingly devastating that it took only one other atomic bombing, that of Nagasaki, to convince the enemy that here was a weapon against which there was no defense. Peace overtures followed swiftly. The enemy agreed to unconditional surrender. As this is written, General Douglas MacArthur is landing in Tokyo with an army of occupation. Within three short weeks after the new weapon was used the war with Japan, which was expected to last from one to four years longer, has ended in complete victory.

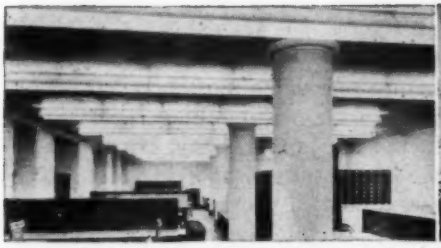
Since the news of the atomic bomb startled the world there has been much speculation about the subject. How is atomic energy created? How is it released? What can be expected from its application to peace-time tasks?

Those and other questions are answered as far as it is possible to do so at this time in a non-technical, but authoritative account of the known facts and implications of atomic power, which appears as a separate insert in this issue.

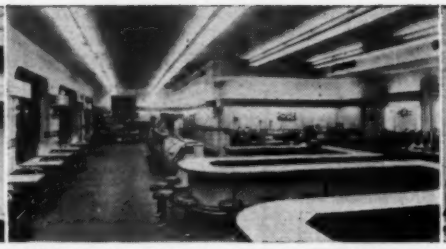
Prepared under the direction of James H. McGraw, Jr., President of the McGraw-Hill Publishing Co., and members of its editorial staff, that account will be found intensely interesting and instructive. Those who might be inclined to predict an immediate place in our peace-time economy and a fabulous future for this new source of energy will find their enthusiasm dampened by the cold facts revealed on the closing page of this presentation.

Undeniably, we stand at the threshold to a new, the atomic age. Nevertheless, man still has much to do, in research and practical experimentation, before even a modest measure of the possibilities inherent in future peace-time applications of atomic power can become realities as active competitors of present-day techniques and practices.

EDITOR



Minneapolis, Minn. Sixty-eight Foot-Candles are provided using 2.3 watts/sq. ft. FUTURLITERS are arranged continuously with rows spaced 8'0" apart. Ceiling-height is 11'0". Installation was engineered by Mr. H. F. Strehlow of the Guth Co.



Warren, O. This prize-winning installation of FUTURLITERS provides 75 F.C. and uses 2.15 watts/sq. ft. Ceiling-height is 10'0", and rows are on 6'0" centers. Engineered by Mr. W. C. Schultz, Ohio Public Service Co.

Chicago, Ill. Illumination at desk-level is 60 F.C. with 2.5 watts/sq. ft. FUTURLITERS are suspended from the 13'6" ceiling to a 9'6" mounting, and rows are on 7'0" spacings. Note the generous ceiling illumination. Engineered by Mr. G. A. Hall of the Guth Co.

Houston, Tex. Using 2.9 watts/sq. ft., FUTURLITERS provide 54 F.C. The "45° Positioning" of drafting tables effectively reduces shadows. Ceiling-height is 10'9", and fixture rows are 8'4" apart. Engineered by Mr. H. G. Hrivnatz of the Houston Lighting and Power Co.

WIDESPREAD ACCEPTANCE

Guth FUTURLITER T. M. REG. INSTALLATIONS tell the whole story of this Famous Fixture

FUTURLITER—the famous Fluorescent fixture—is used in offices, drafting-rooms, banks, schools, stores, and wherever there is need for Direct-Shielded lighting. FUTURLITERS are modern as tomorrow, they are efficient light producers, and are inexpensive to maintain. Investigate FUTURLITER!

NOTE: All photographs used in this advertisement are UNRETOUCHED. Faithful photos are difficult to obtain where shielded-direct lighting is employed. Despite this fact the installations as shown are without the Artist's touch-up.

St. Petersburg, Fla. Cool fluorescent lighting for warm, beautiful St. Petersburg! There are 75 Foot-Candles on Drafting Tables, and 50 Foot-Candles in office areas, after 1,000 hours operation. Engineered by Mr. W. B. Shenk, Florida Power Corporation.

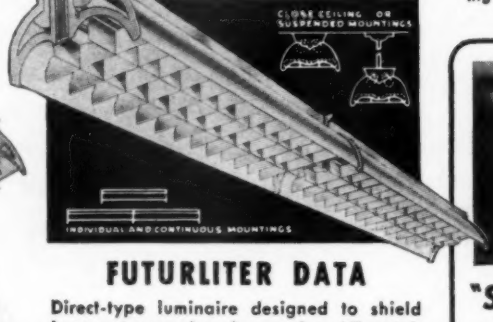
St. Louis, Mo. Fifty Foot-Candles with 3.12 watts/sq. ft. Rows are 8'0" apart. FUTURLITERS are mounted 12" below the 11'0" ceiling. Good lighting provides increased office work, reduces absenteeism and improves employee relations. Engineered by Mr. F. B. Lee, Illum. Eng., General Electric Co.

Tulsa, Okla. A prime example of good merchandising illumination (no exposed lamps to distract customers' attention). There are 50 F.C. on the merchandise. Ceiling-height is 14 ft., and spacing between rows is 8'0". Engineered by Mr. A. N. deEspenza of the Lawson Electric Supply Co.

Decatur, Ill. Beautifully lighted stationery and photography store, uses FUTURLITERS in 8'0" sections. Ceiling-height is 12'6", and fixture-sections are on 12'0" x 9'0" centers. Illumination is 33 F.C. using 2 watts/sq. ft. Engineered by Mr. H. E. Chamblin, Illinois-Iowa Power Co.

Dayton, O. Drafting-room with 65 Foot-Candles on the tables is equipped with FUTURLITERS arranged in rows on 8'0" centers. Ceiling is 11'0" high, and fixtures are dropped to a 9'0" mounting-height. There are 3.1 watts/sq. ft. Engineered by the Lighting Dept., of the Dayton Power & Light Co.

Symbolizing the Amazing Performance of GUTH Futurliter



FUTURLITER DATA

Direct-type luminaire designed to shield lamps at normal seeing angles. All metal, strongly constructed. Finished "300° WHITE". For 2-40 and 3-40 watt F Lamps. Built in 48" sections for individual or continuous-row installations; can be attached directly to ceiling or suspended from same. Available with Conventional or Starterless Ballasts.

"Soft-Light" for Ceilings with the FUTURLITER

To relieve harsh shadows and ceiling contrast, a small amount of light is distributed upward. Whether attached to the ceiling or suspended, FUTURLITER provides a pleasant, cheerfully-lighted room.

THE EDWIN F. GUTH COMPANY
2615 WASHINGTON AVE. • ST. LOUIS 3, MO.
"Leaders in Lighting Since 1902"

WHOLESALER'S SALESMAN NEWS

Unlimited Civilian Production Ahead As WPB Ends Most Controls

V-J Day brings end to WPB's control of production and distribution. Ending of war contracts makes manpower, machines and material available for quick resumption of peace-time manufacturing

THE RETURN of thousands of materials and products which the wholesaler's salesman is waiting to sell to the peace-time market came much closer during the weeks following V-J Day, as the War Production Board released most of its control over manufacturing and distribution.

During the same period, the cancellation of billions of dollars' worth of military contracts freed machines, manpower and distribution facilities for all-out concentration on goods for the civilian market. Supplementing these situations was an order from the still-operating Office of Price Administration which clarified the price structure for many consumer goods and removed price control from 100 other items.

Appliance Controls Canceled

Of particular importance among the many products which received the "go sign" on August 20, were radios, refrigerators, electric fans, laundry equipment, storage batteries and domestic stoves. Most of the cancellations were effective on that date, a few others were operative by September 1.

In announcing the ending of these controls, J. A. Krug, chairman of the WPB, said "...we do not want to perpetuate Government controls. We want industry to solve its problems in the traditional American spirit of 'Let's get the job done!'" At the same time, Mr. Krug stated that controls were being retained on some materials because of acute shortages, and therefore "...it will be necessary to prevent hoarding."

Throughout the nation, in the days following the announcement of Japan's capitulation, workers were released from war production plants by the hundreds of thousands. The majority were expected to be re-employed shortly to get underway the production of civilian goods as soon as machines or plants were changed over and a supply of materials became available.

Unlike the situation when attempted resumption of production on civilian items through the "spot authorization" procedure was often stalled by inability to get skilled help, it was expected that little trouble would be encountered as soon as well-earned vacations and the dwindling of severance pay started workers back to the factories.

Among the products expected in the retail market by the end of the year were radio receivers. The War Production Board, when it cancelled controls of radios, noted the sweeping termination of Army and Navy contracts for radio, radio and other electronic equipment, and announced that 3,500,000 radios might be produced for civilian buyers during the later months of 1945. Washers, ironers

EVERYBODY'S HAPPY at the presentation of the Army-Navy "E" to the Plymouth Rubber Company, Canton, Mass., particularly the above, left to right, Eddie Colligan, assistant sales manager, guest George Wahn, president, George H. Wahn Company, and Walter H. Bieringer, vice-president of Plymouth Rubber. Ceremonies were held on the grounds of the company's plant at Canton, with distinguished guests including Massachusetts' Governor Maurice J. Tobin, high officers of the Army and Navy, and an Army band in attendance. The award came to Plymouth Rubber Company on the eve of its Fiftieth Anniversary.

A Tribute

to all those who helped in the greatest scientific achievement of all time... the

ATOMIC BOMB

"TO KEEP THE PEACE"

For the inspiration and leadership displayed by the Executive, Military, and Naval authorities... to the Scientists... Engineers... to Labor, and to those Companies that played a part in this unprecedented achievement, General Cable voices the sentiment of America in extending highest praise and heart-felt appreciation. Because of their scientific genius, their untiring effort and their complete devotion to this gigantic task, Victory comes sooner and all mankind benefits.

General Cable Corporation is also justly proud of the contribution made by its own staff in the engineering development and manufacture of still secret and exceedingly special materials essential in the production of this device of war... and of Peace.

GENERAL CABLE CORPORATION

MANUFACTURERS OF BARE AND INSULATED WIRES AND CABLES FOR EVERY ELECTRICAL PURPOSE

and kitchenware also were expected to be available shortly.

Prices at '42 Levels

The Office of Price Administration, through Administrator Chester Bowles, indicated on August 23, that with few exceptions most consumer durable goods would return to the civilian market "at 1942 prices." He said that manufacturers would be required to tag articles at retail prices of three years ago.

Small business entering the consumer durable goods field is to get special consideration from the OPA through "fast" price orders obtained either through accepting prices in line with the comparable products of an established manufacturer or by obtaining from the OPA a temporary price based on cost-plus.

At the same time, the OPA also provided for individual price adjustments in most manufacturing fields whereby "a manufacturing firm suffering an over-all loss on all its operations at normal volume may receive price adjustments sufficient to bring it to a break even condition."

Supplies to Increase

For the majority of staple items for the electrical wholesaler and his salesmen—wiring devices, electrical equipment—the biggest news was the cancellation of the war contracts which had tied up production of unlimited quantities. As most of the goods have been in production through the war years, no delay in starting full production was expected. Skilled manpower is available and right on the job, and the ending of war contracts and controls would shortly make available both the materials and the markets.

NEW REA CHIEF, Claude R. Wickard, right, takes the oath of office administered by John W. Asher, Jr., personnel chief of the Rural Electrification Administration.

Association and Banks Join Forces To Promote Local Adequate Wiring

Philadelphia electrical group and financial institutions unite in effort to have city and suburban homes prepared for heavier load on wiring when post-war appliances and re-lighting are used

A COOPERATIVE effort has been worked out between the Electrical Association of Philadelphia and 32 of the leading city and suburban banks to lay the groundwork for the purchase of home electrical equipment when appliances and lighting fixtures become available in quantity.

To start the program, the association, representing all phases of the electrical industry, has decided to publicize a fact not generally known by householders—that many homes are inadequately wired for the appliances and fixtures that families will want to install in the years to come.

"Until the time comes when electrical appliances actually come on the market in sizable quantities, promotion will stress the need to modernize home wiring systems," the article states. "It is felt that this is a job that can be done during the conversion period and it can start as soon as contractors have the men and materials available for the work.

"In fact, a general home improvement program, of which wiring is a part, if it were conducted on a nationwide basis, could conceivably absorb many workers no longer needed in war plants and thus help to minimize possible immediate widespread unemployment."

The first development in this project was the widespread distribution of a leaflet under the caption, "Take These 3 Steps to Modern Living"—1, Repair, remodel, modernize, renovize your home;

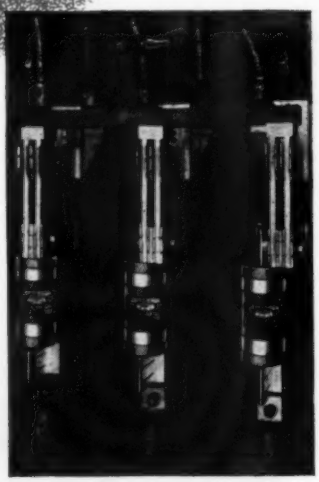
(*Continued on page* 140)

TAKING FORM. The addition to the Westinghouse Electric Supply Company's building in Los Angeles is nearing completion. The building, which is 120 feet square, and two stories high, will be used for warehousing purposes. Across the way is a 20,000 square foot parking area for employees which will allow the 20-car area in front of the building for customers.

The high standards set by the Army and Navy were no novelty at Jefferson Electric because Jefferson-Union Fuses had been made to unusually high standards of precision and accuracy for many, many years.

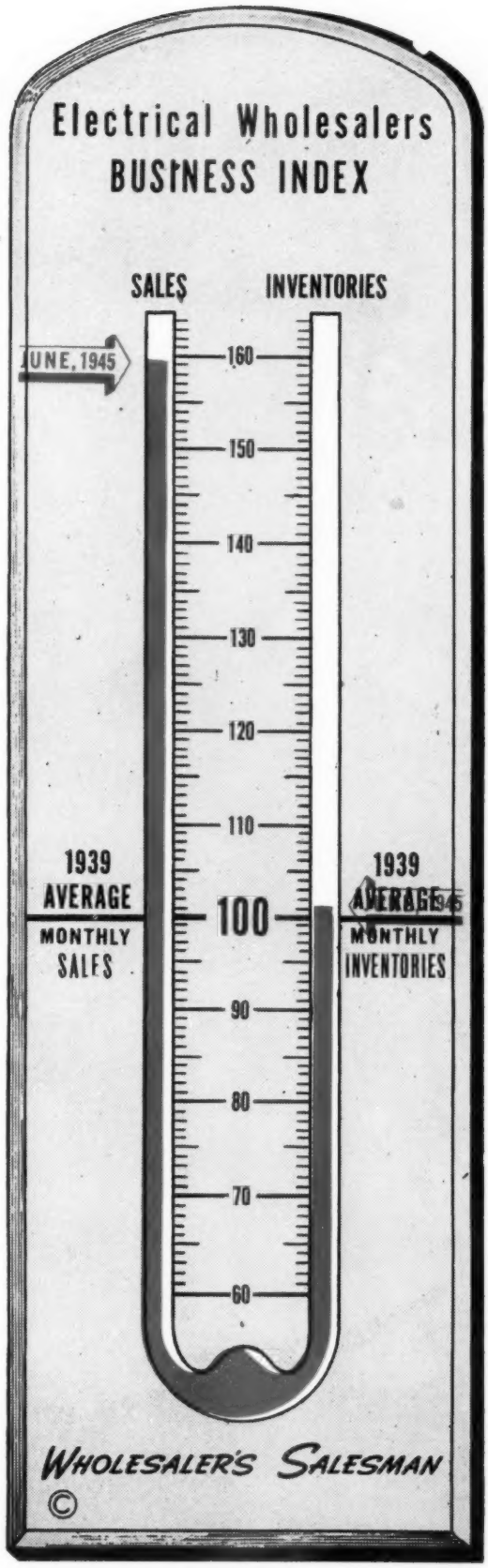
The extra hundreds of thousands of Jefferson-Union Fuses needed for ships, planes, signal corps trucks and in ordnance and essential war production plants required greater production capacity which with advanced methods and technique, now permit us to insure prompt deliveries.... When you specify Jefferson-Union Fuses for the reliable protection of vital electrical circuits and costly equipment you can be sure of getting them.

For your convenience, stocks are carried by Electrical Wholesalers. . . . JEFFERSON ELECTRIC COMPANY, Bellwood (Suburb of Chicago), Illinois. In Canada: Canadian Jefferson Electric Co. Ltd., 384 Pape Ave., Toronto, Ont.



JEFFERSON UNION Renewable FUSES

JEFFERSON ELECTRIC



SOURCE The figures we use as basis for these monthly comparisons of performance in the electrical wholesaling field are collected and compiled by the Bureau of the Census of the U. S. Dept. of Commerce.

Business Index
For the Month of June 1945

SALES Sales of electrical goods by wholesalers throughout the country in June averaged 159 percent of the 1939 peace-time average monthly sales volume.

Thus, for the first full month following V-E Day, wholesalers' sales increased to the highest level since April and May, 1944, the two months of industrial activity that preceeded "D" Day.

When compared to June of 1944, electrical wholesalers' sales were up 16 percent, which according to Dept. of Commerce figures represents the highest gain in sales volume for any group of wholesalers in the country. The automotive supply wholesalers, and the machinery, equipment and supplies wholesalers were the closest of the related fields, showing gains of 8 percent each. The hardware wholesalers reported a 3 percent drop in sales compared with June, 1944, and for the same period the furniture wholesalers had a 10 percent drop in sales volume. Lumber and building material wholesalers reported a 4 percent gain in the same period.

INVENTORIES During the first full month following the end of the European war, inventories of electrical goods held by wholesalers increased to 101 percent of the 1939 peace-time level. This is the first month since September, 1943, that wholesalers' stocks have been reported at more than 100 percent of the peace-time level.

Here again, electrical wholesalers led all other related groups of wholesalers with a gain of 27 percent over the same month of 1944. Automotive supplies wholesalers were close with a 24 percent gain and machinery and equipment supplies wholesalers were not far behind with a 17 percent increase in inventories. Furniture wholesalers reported an 11 percent drop in stocks compared with June, 1944, and farm supplies were down 13 percent. Inventories of plumbing and heating were up 11 percent, but general hardware stocks were down 2 percent.

COLLECTIONS Collection percentages for June, 1945, were 95 percent, six points higher than for the same month of 1944, and two points higher than the collection percentage for May, 1945.

Accounts receivable in June were up 3 points compared with the previous month, and up 8 points compared to the same month of 1944.

Certified
FLEUR-O-LIER
CERTIFIED
in accordance
with Test
Requirements of
Specifications of
Fleur-O-Lier Manufacturers
CERTIFIED
ETL
ELECTRICAL TESTING
LABORATORIES, INC.
NEW YORK, N. Y.
Certifying Agent
...you
* Certified Ballasts and
Starters are an important part
of Fleur-O-Lier Certification.

WHEN FIXTURES WEAR THIS LABEL

have lots of extra selling punch

For you can be sure that fixtures labelled Fleur-O-Lier are RIGHT! You can be sure of performance. You can count on trouble-free operation. And your customers know it!

Here's why:

1. Fleur-O-Lier certification is a protective service set up to help you and your customers. Over 30 leading fixture makers build fixtures that carry it. That means many sources of supply.

2. This label on a fixture means that it is built to definite authoritative specifications . . . to provide the best in lighting and lamp performance, together with dependable service.

3. It signifies that fixtures are subject to rigid test by Electrical Testing Laboratories, Inc., and are certified by them as meeting Fleur-O-Lier specifications.*

4. It brings you the knowledge and research of many of the finest technicians in fluorescent lighting.

And in addition—this label lets you choose from a wide variety of fluorescent fixtures designed to appeal to the taste and style needs of your customers—and be sure about quality!

So when you're planning for tomorrow's fluorescent lighting sales, be sure fixtures marked Certified Fleur-O-Lier are part of your plans.

FLEUR-O-LIER

Manufacturers

CERTIFIED FIXTURES FOR FLUORESCENT LIGHTING

Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements

WHOLESALER'S SALESMAN BUSINESS INDEX

REGIONAL ANALYSIS

JUNE, 1945

DISTRIBUTION of wholesalers' sales throughout the nine regions during June was uneven, with totals ranging from indicated gains up to 6 points down to declines of 7 points, when compared with the previous month.

Wholesalers in four of the nine regions had sales higher than the previous month, with region 5, the South Atlantic States showing the largest month-to-month gain.

The most severe drops in sales volume were reported from three of the most industralized regions, the New England States, the Middle Atlantic Region, and from the Pacific Coast. This justifies the conclusion that those regions were feeling the results of contract cancellations and cutbacks which followed the ending of the European war, but had not yet gone very far toward reconversion. Not yet in production were the civilian goods which received the "go-sign" when WPB released many controls in May.

With few exceptions inventories were well distributed throughout the nine regions. All but two regions showed an increase in stock over the previous month.

The lack of any sudden jump in wholesalers' inventories during the first month following the release of many controls by the War Production Board, would indicate that manufacturers had been able for some time to fill most of the wholesalers' demands within the limit of the raw material supply. It may be a while, probably until after the effects of V-J are felt, before electrical goods can be expected to flow to wholesalers in sufficient quantities to permit the maintaining of normal inventories.

Figures in this table apply to the geographic divisions as outlined and numbered in color on map above

SALES June 1945 Compared in % with		Trading Region	INVENTORIES June 1945 Compared in % with	
May 1945	June 1944	(See Map)	May 1945	June 1944
93	95	1.	105	123
94	125	2.	102	123
101	113	3.	103	134
97	137	4.	100	124
106	114	5.	103	130
99	149	6.	98	127
102	146	7.	104	127
110	138	8.	96	131
93	94	9.	100	124
98	**116**	For **U.S.A.**	**102**	**127**

STATES COMPRISING GEOGRAPHIC DIVISIONS: Region 1—Maine, N. Hamp., Vt., Mass., R. I., Conn.; Region 2—N. Y., N. J., Penn.; Region 3—Ohio, Ind., Ill., Mich., Wis.; Region 4—Minn., Iowa, Mo., N. Dak., S. Dak., Nebr., Kans.; Region 5—Del., Md., D. of C., Va., W. Va., N. C., S. C., Ga., Fla.; Region 6—Ky., Tenn., Ala., Miss.; Region 7—Ark., La., Okla., Tex.; Region 8—Mont., Idaho, Wyo., Colo., N. Mex., Ariz., Utah, Nev.; Region 9—Wash., Ore., Calif.

LIGHTING....

The Way To Extra Profit

By E. D. Stryker*

ALMOST everyone in the lighting business accepts the promise that, in the first five postwar years, lighting will constitute a truly tremendous market. But, this estimate is so readily accepted that many of the men in the lighting fraternity may not realize just how big the market will be, may not be fully prepared to profit from it.

Out of long and intimate association with many types of manufacturers, utilities, distributors and dealers, out of many years of constant contact with all of the phases of lighting sales, many of us at Nela Park have had an unparalleled opportunity to observe and analyze a wide range of operations. This experience reveals certain principles and procedures which are essential to the success of the distribution of lighting equipment. Because the developing, making and selling of light sources is our business, the Lamp Department of the General Electric Company is vitally interested in potentials for fixtures and portable lamp sales.

As we look at the wholesaler's lighting market, all of us know that it should be divided into five principal activities: (1) The organization and direction of the Lighting Sales Department, (2) the evolution of ways to enlist the cooperation of contractors, electric light and power companies, fixture representatives, architects and consulting engineers,

(3) the creation of a plan which will show the wholesaler what to stock and how much, (4) the implementing of the sales force and (5) lighting demonstration and display.

Before we look too long at the promise of the future, it is often wise to look for a moment at the past. Figures supplied by nearly one hundred electrical distributors, representing all sections of the country, covering the prewar years 1940 and 1941, show us that lighting and lamps comprise 27.2 percent of the total supply sales volume in the United States.

These data also establish the fact that lighting and lamps accounted for 33.8 percent of the wholesaler's gross margin. The facts would seem to indicate that lighting has both a higher profit rate than any other wholesaler's line and is the distributor's fastest growing single line. Here are the figures:

Pecentage of gain over 1938	Lighting	Other Lines
1939	57%	27%
1940	218%	35%
1941	523%	233%

National Sales Prospects

As we look ahead, this is what we see. The national market has a five-year lighting potential of $3,500,000,000. Pent-up lighting sales, on a national basis, however, are relatively meaningless to any individual electrical wholesaler. What does this gigantic potential mean in a typical individual territory?

When we analyze an area which encompasses a population of approximately 1,000,000, this is what we find. Even though he concedes 90 percent of the total available business to his competitors, an average electrical wholesaler can reach a five year lighting volume of $2,700,000 or $540,000 in sales per year.

Industrial

From what sources will that business come? Let's look first at industrial lighting. The era of tremendous war-lighting prospects is over, but that in no sense means that industrial lighting has reached its saturation point. A recently completed survey which covered eleven basic industries in seventeen states establishes the fact that more than half of the plant operators questioned said that they did not yet have adequate production-lighting. These plant operators, as well as thousands of others like them, are going to improve their lighting, which means only that the wholesaler must set his sights for a larger number of small orders instead of a few gigantic ones.

Commercial

As we look at the commercial market, we find comprehensive proof of a great interest in modern lighting. A number of independently conducted surveys show that eight out of ten store operators have said they want and will buy new lighting. Obviously, commercial lighting is not limited to stores alone. There is a great market among schools, offices, theaters, restaurants, places of recreation, and business buildings. Electrical experts estimate the post-war national commercial market at approximately $250,000,000 annually.

Residential

As we look at domestic lighting, we discover a market in which little or no selling had been done for the duration of the war. Government housing experts say that America needs 1,000,000 new homes a year for the first ten post-war years, and that millions more need rejuvenation. Homemakers with stored-up savings greater than at any time in the past, are in the mood and have the means to buy more lighting faster than ever before. Residential fixture manufacturers have developed demonstration lines and are revamping their distribution and organizing for cooperative promotion.

A tremendous percentage of home lighting probably will be fluorescent including packaged over-the-counter lighting for daylight kitchens and bathrooms, valance and center units, for work and recreation areas. Portable lamp makers are preparing as never before to cultivate the domestic lighting market, and the certification program has been broadened to include a wider range of types and design.

Home magazine surveys show that 50 percent of homes will buy table lamps, an average of more than two per home, that 48 percent of the homes will buy floor lamps, an average of almost two per home. Add these totals and we find that the profits from the sale of more than 100,000,000 portables awaits the electrical wholesalers of the country.

Promoting Pays

And let's not forget supplementary lighting. Too often, prospects and customers think of lighting only in terms of overhead or general illumination. Yet, on every production line, in every office, and in homes and stores all over America, there is an obvious need for local lighting of many kinds. Surveys show that the market for local or supplementary lighting compares directly to the volume and profit represented by general illumination.

Lighting is not only a vital wholesaler line, but has many plus advantages. The wholesaler's lighting department can and will stand on its own feet. In addition to the net derived from the sale of lighting equipment, there are several plus reasons why an organized lighting department is the most important operation in a distributor's business.

Lighting is promotable. Every establishment where the distributors might grow must use lighting and needs more.

Lighting builds prestige. The distributor's lighting salesman is a technical consultant. He meets people; helps merchants sell more goods, helps manufacturers cut costs and makes himself and his organization more important figures in the community.

Lighting helps to create other sales. As everyone in the electrical business knows, more sockets mean more lamp sales, more wire and conduit, more meters, more switches, literally more of "everything."

Neglect Costs Money

Now, let's see what happens when lighting is neglected. A comprehensive survey of a large number of recently relighted stores and offices, reveals the fact that, had a proper sales approach been made, 53 percent more lighting equipment might easily have been installed. The results of

E. D. Stryker

this underselling, in addition to disappointed and dissatisfied customers, show these figures on the wrong side of the ledger:

	Per Store	Per Office
Loss in fixture sales	$198.00	$231.00
Loss in lamp sales	23.75	26.60
Loss to contractor—labor only for hanging six fixtures	18.00	21.00
Loss to lighting company	171.00	63.40
Total loss to industry	$410.75	$342.00

Lost, too, may have been the opportunity for the contractor to install adequate wiring. The dollar loss in itself is serious enough, but even more serious is the loss of faith on the part of users who believe that lighting could and would aid their business, who, because of incompetent or indifferent advice, were disappointed. The effects may be cumulative and it would, therefore, seem that, for the good of his other lines and in the interest of his business future, the distributor cannot afford to minimize the importance of his lighting department.

If, as the ancient axiom asserts, one picture is worth a thousand words, then the real thing is worth a hundred pictures.

Planning for Profit

So, many wholesalers in many markets are planning now to use lighting to sell lighting. They realize that they must render an essentially new lighting service to cooperating architects and contractors, as well as to their own lighting prospects and customers; know that they must create more dramatic demonstration of lighting for the use of their salesmen and their allies.

Prior to the advent of the war, wholesalers already had discovered that demonstration helped to speed lighting sales, had found that well-conceived and well-executed sales rooms, in themselves, were proof of the fact that seeing is the biggest thing in selling.

Planned display rooms not only demonstrate modern lighting, but visualize its effects and emphasize its benefits. Even the smallest electrical wholesaler has facilities for the demonstration and display of a wide range of equipment, simply by lighting his facilities and the space which he uses for their sale. As every wholesaler knows, good lighting displays will give their salesmen a reason for bringing in prospects.

Displays, too, will help prospects to decide; demonstrate lighting values, and serve as a show room and laboratory for architects, consultants, contractors and buyers of all kinds. In addition, the lighting display area is a positive aid in sales and product training and, in essence, makes the wholesaler with a carefully-calculated lighting display project into lighting headquarters for his sales area.

There are three principal ways in which an alert electrical wholesaler can make his plant say "lighting headquarters." As he installs the equipment, all over his plant, to demonstrate proper lighting, he also creates an effective display of the lines he offers for sale. He can give his show room atmosphere by the use of photomurals of model installations, and by the use of booths and selling displays. He can use the equipment he sells to visualize the benefits of proper lighting, demonstrate speed of seeing color matching, shadow effects, and all of the other benefits of better light for better sight.

As they make their plans for the future, most electrical wholesalers are considering these things. They are attempting to estimate what part management is to play in the sales of tomorrow. They are planning the organization of lighting sales department, preparing for supervision, personnel, sales training, and prospects assignment.

They are laying the ground work for closer cooperation with all of the outside sales organization who also are interested in the promotion of better lighting. They are arranging their facilities for displays and demonstration. It is not too soon for every reader of WHOLESALER'S SALESMAN to start planning for leading in lighting. *Photo on page 69 by General Electric, Nela Park.*

**Lamp Department, General Electric Company, Nela Park, Cleveland.*

You'll Be Top Man In Selling If You've Got Top-line Goods

By W. J. Massey*

BEFORE I get to the real subject of this article there is one basic premise which must be established. Omitting statistics and fanciful guestimates it is this: (1) The biggest market for lighting fixtures, lamps and necessary wiring is immediately ahead of us. (2) The major portion of this demand will come from stores, offices, and other commercial establishments. (3) It's going to be fluorescent by a big margin.

If you will agree with these three points we have a common ground on which to start this discussion.

When fluorescent lighting was introduced in the long ago of 1938 its potentials were just as glamorous and just as intriguing as they are today. And everybody and his brother wanted a stake in this bonanza. Reputable manufacturers and Shoddy Johns were all feverishly designing and building fixtures to capture what they thought was their share of the market.

Sales organizations were quickly thrown together and jammed into high gear. Customers were high pressured into buying this new form of lighting just because it was new or because it would save them money on their electric light bills. And the whole industry started down the road at breakneck speed.

Few people knew where they were going but everybody wanted to get there in a hurry. The few who saw beyond the first turn in the road cautioned safety. They called for honest fixtures, planned installations, intelligent selling, and a fair profit for everyone. It would be unfair to say that their advice was entirely unheeded. Many progressive wholesalers, utilities and manufacturers realized that unless the industry could stop this careless selling of makeshift, inadequate lighting installations the public would soon feel that there were no advantages to fluorescent lighting other than novelty and back away from it.

As a result fixture designs were improved, many manufacturers became identified with certification programs such as Fleur-O-Lier and R.L.M. Utilities and lamp manufacturers started training programs. Wholesalers became more selective in the kinds of fixtures they handled, and there were many indications that sound sensible thinking would prevail.

How far or how effective this new thinking would have gone is anybody's guess. The war came along and the brakes were jammed on. Good practices were stopped along with the bad ones and the industry retired to fight on another front.

Today we are starting in all over again. We are not picking up where we left off. We can start just as fresh and clean as we choose. How many of the past mistakes will we make again?

Take the mistake of selling shoddy fixtures. How can this be controlled? I think you can depend upon the reputable fixture manufacturers to deliver an honest product. Industry certification groups will establish standards that assure customer satisfaction. The trouble starts with the fringe group —the boys who can always make a cheaper price because their product is lower in quality. How can they be controlled?

I think the answer lies with the wholesaler. If wholesalers will refuse to handle shoddy goods there will be less shoddy goods manufactured. These manufacturers will have to resort to more expensive methods of distribution, their margins of profit will be lower and they will be much more sensitive to competition from reliable fixtures.

Careless selling will prove to be the real boomerang. The records show that many customers have been dissatisfied with fluorescent lighting. When you look for the reasons you will find that the job was sold merely as a replacement for existing fixtures. No thought was given to planning or improving the actual lighting in the store or office. In the final analysis your customers are buying lighting. The fixtures, lamps and wiring are only the means to that end. If he doesn't get good lighting, the beauty of the fixtures or the low cost of the job is wasted.

The sooner we stop thinking in terms of component parts and start thinking and selling lighting the sooner we will have a firm foundation for continued progress in this

Modern Lighting Via Modern Units And Know How To Plan Lay-outs

W. J. Massey

business. To sell lighting our sales forces will need more than a set of manufacturers' catalogs. They will need training and education in the basic fundamentals of lighting.

Now don't misunderstand me. I do not believe that salesmen should become lighting engineers — that would dilute their selling effort. They should always be salesmen but they should be better informed, better trained salesmen. Salesmen should be able to tell customers what kind of lighting they need, whether it should be fluorescent, incandescent, mercury or a combination. They certainly ought to be able to tell the customer how much light he needs and why he needs that amount. They should be able to advise on color and give the customer new ideas which will result in greater benefits to the customer and perhaps a bigger order for the salesman.

Salesmen should then be backed up by a competent technical man who can translate the needs of the customer into terms of number and type of fixture, location of fixtures and details of special applications. I believe that the wholesaler who is going to make the most out of the immediate future market will have a lighting technician on his staff to give this practical technical help to his salesman. One of the reasons why this has not been done in the recent past is, of course, the lack of trained men. Fortunately, this will be rectified in the future. Several manufacturers are now developing programs which will easily and quickly train both salesmen and lighting technicians.

Another mistake which I hope will not be repeated in the future is for good reliable wholesalers to allow cheap competition to get the jump in promotion and merchandising. It is not enough to have good merchandise, a trained sales force and technical help. You have to tell your customers about it. Good wholesalers who take the lead in merchandising and promoting lighting will close many doors to competition and set a pace which "Shoddy Johns" cannot match or maintain.

**General Sales Manager, Lamp Division, Westinghouse Electric Corporation.*

Today We've Got the Markets, But All Good Salesmen Still

Don G. Mitchell

NATURE'S way of keeping us on our toes seems to be to hand us a terrific jolt now and then—a jolt that makes us revise all our previous conceptions of time, space, power or what-not. The atomic bomb is an example. Good or bad, it shook our minds and our imaginations out of the groove.

Sometimes I wish we could plant a very small atomic bomb under the lighting industry. We're in a groove. Our efforts are limited by pre-war conceptions. The percentage of existing U. S. commercial or industrial lighting jobs that have any sweep or daring can be counted on one hand. The number of mediocre and unimaginative jobs are too numerous to mention.

Of course, our industry is not the only one guilty of lack of imagination in design and selling. Remember when the first plastic materials replaced wood; most of them were tortured into wood grain imitations —simply because our conception of plastics was limited by our narrow thinking in terms of wood. Actually this silly cycle has completed itself: the war-time wood filing cabinets are carefully painted to resemble metal!

We in the lighting industry are similarly bound by traditional thinking. We sell plenty of lighting jobs that give 15 to 30 foot candles simply because the old incandescent lighting job gave 10 to 20 foot candles and we can show an increased light meter reading without too much of an increase in the power bill. Actually we might engineer and sell lighting levels of 50 to 100 foot candles or even maybe 150. Maybe we are all wrong in selling foot-candles: maybe we should throw our meters away and sell relative brightness on working or selling surfaces.

At any rate I think we should sell improved vision, lower cost production and better labor relations, better merchandising practices, better quality of lighting on merchandise. I think we must follow the lead of the automotive industry. They don't sell 3,000 lbs. of steel on wheels: they sell the joys of going places sitting down, the wind in your hair and the freedom of the open road.

It's largely a question of showmanship. You can raise the light level in a store or plant from 20 to 30 foot candles by a new lighting installation and your customer will hardly see any difference: but give them 4 or 5 times the original light and they'll certainly see the difference. And being human beings, they may not think of the difference being worth the cost, but they will cer-

the Products, the Sales Helps - - Must Know How to Sell

By Don G. Mitchell*

tainly like it and talk about it.

There are many authorities in the lighting field who say the 75 percent of the commercial and industrial establishments in America need relighting. From our experience, that's a conservative figure. Don't forget that the lighting jobs that we have been reading about in the past five years have been the glamorous Willow Runs—the top priority war plants—while 90 percent of our factories and stores and offices have been struggling along with lighting conceived before or during the depression of the early thirties. The market is there: the question is whether we can sell it.

Wholesalers Must Sell

Some may think that lighting is in a class with nylons and automobiles that once production is restored that lighting sales will boom. We don't doubt that there is some pent-up demand for new lighting—but our surveys have indicated that it is less than you might imagine. Lighting is a strange business: it is not only one of the most dramatic raw materials of living—a raw material that can vitally affect our emotions, our organs and our thought processes—but it is also a raw material which, like oxygen, we humans take for granted. Man-made light is wonderful stuff. While we salesmen have been turning down orders and functioning as service people, the lighting engineers have had four years to learn new things about it.

The wholesaler is no exception. He and his men have got some lost time to make up, too. Not only must they catch up on technological developments and reshape their conception of lighting, but they will have to intensify their selling efforts. They will have to learn to sell quality, too, as it has never been sold before.

There are two reasons for this: the first is that post-war prices are probably going to be anywhere from 10 to 20 percent higher than pre-war prices, and the second is the customer's realization, that, due to the war, merchandise lasts much longer than we thought.

Our "patch-things-up-and-make them-do" philosophy is deeply rooted. Sylvania saw this philosophy in the radio field: one of our surveys showed that there is a potential market for twenty million sets during the first year of peace. But most of these potential set buyers made it quite clear that the industry must give them a much better radio than they now have and at a fair price—or consumers will make their present sets do for another two or three years till we meet their demands.

Sales Direction Needed

So much for the conception of post-war sales: now let's turn to the actual mechanics of selling. Many wholesalers will find that hiring a bunch of peppery young ex-soldiers and turning them loose is only half

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the job. Sales direction is going to be a far more complex and scientific business than ever before. I like to think of sales management as a five-step job: putting the right man in the right job, training him properly, directing him intelligently, compensating him adequately and backing him whole-heartedly. If the men in charge of organizing sales fall down on any one of these five fundamentals, they will have a second rate sales force, and a second rate sales force just won't do in the tough selling years ahead.

As for finding the right man for the right job, let me merely suggest that we all overhaul our thinking on this all-important phase of sales direction and take advantage of what industry and the Army learned about psychological aptitude tests during the war. Pre-war methods of selecting salesmen have been hit or miss to say the least. If production engineers used the same methods for procuring raw materials that we sales managers use in recruiting salesmen, their manufactured products would be weird affairs indeed.

Sales Training Needed

Then, once we have the men, we must train them better than we used to. Again industry has taught us a lot about training methods—with excellent results. I personally believe in training them on the job rather than in the shop or office. If a cub has any selling instinct, too long a term inside will kill it off—or else he will go out and get a job where he *can* sell.

As for direction, that must go scientific, too. There will always be sales meetings, pep talks, contests and other types of promotion, but the smart sales director will also go in for accurate market analysis and careful determination of sales territories. He will spend more time setting quotas, combing prospect lists and handling call reports. He will have to know exactly what his market potentials are and what percentage of those potentials he can demand from each member of his sales force. If he doesn't have these yardsticks, he simply can't know whether or not his boys are doing a good job.

As for compensation, almost everyone now realizes there is no direct relation between a low paid sales force and low selling cost, except, perhaps, an inverse ratio. Time and again I have seen one $5,000 a year salesman outsell two $2,500 a year salesmen. In selling as in production work, incentive pay seems to be the most successful method. It stimulates a good man and shows up the uninspired pluggers. But sales directors must keep a balance between territories, potential sales and compensation or else there will be cases of highly paid star salesmen who are actually only skimming the cream off their territory.

Back Up the Men

When it comes to backing the sales force, there are routine details which must not be overlooked—proper handling of orders, and careful analysis of sales reports. But one of the most overlooked parts of the backing up problem is the proper uses of sales promotional material. I have been a salesman and I know that much of the promotional material handed out by manufacturers is stupid and useless. But much of it is excellent.

Intelligent manufacturers spend hundreds of thousands of dollars in planning and executing promotional material displays, direct mail material, merchandising promotions, maintenance plans and demonstrations. Much of this material reflects years of cumulative engineering study and psychological study on the part of leading marketing and merchandising experts. Much of it is badly presented by the manufacturer's own salesmen which may account for the cool reception it so often receives on the part of jobbers and wholesalers.

My whole point is that there is an army of engineers, sales executives and merchandising men behind the sales promotion material made available to wholesalers and their men. There are numerous case histories to show that when the cycle is completed and the good material is intelligently used, sales results far exceed expectations.

Therefore I strongly urge distributors to take a personal interest in this phase of sales promotion and not delegate it to "one of the boys." Careful planning in the use of sales promotional material should be examined just as is the quality of the product it is designed to sell.

Many of us will have to rebuild our sales forces from the ground up, and the time to start is right now. For rebuilding a sales force can often take longer than re-tooling a plant, and re-converted plants won't help America regain her economic strength until names—millions and millions of names—begin to appear on the dotted lines. *Illustrated with Sylvania photos.*

**Vice President in Charge of Sales, Sylvania Electric Products, Inc.*

If You Would Make Home Lighting Sell the New Overhead Type That:

Willard G. Sawyer

IN March of 1945 a group of residential lighting fixture manufacturers met in Cleveland to determine a course of future association action if any. We were at an important crossroads. We faced the choice of taking the path of concerted, cooperative action to elevate our drooping industry or of following the road of lone wolf effort to almost inevitable oblivion. We unanimously chose the former. With this decision, a new, revitalized Fixture Manufacturers' Association was born, and from it, in turn, has sprung a Fifteen Point Action Program which we present in brief form:

ACTION 1: Name Changed to— American Home Lighting Institute, Inc.

This name more clearly identifies our members as manufacturers of residential lighting equipment than the former name, American Lighting Equipment Association. At the same time, it reflects the spirit of constructive research and planning that will characterize our new program.

ACTION 2: New Slogan—"Overhead Lighting for Better Living"

This new slogan points up the benefits and results overhead lighting achieves in the home. Leading architects and interior designers recognize the limitless opportunities for functionalism as well as decoration, and the effective medium overhead lighting presents for transforming home interiors into places of transcending charm and beauty.

ACTION 3: Cooperation with Allied Interests

We propose to cooperate fully with the allied interests in home lighting, since such cooperation will result in better design and improved performance.

ACTION 4: Coordination with Other Forces Who Are Part of Our Industry

It is our plan to establish in each case a solid basis for cooperative activity with electrical leagues and associations, The National Adequate Wiring Bureau, Better Light-Better Sight groups and other industry trade associations.

ACTION 5: Editorial Support

Since we have important news in exciting modern overhead lighting in the home, we will make available to publications articles on the many benefits overhead lighting in the home presents.

ACTION 6: Advertising in Publications That Reach the Home

Our advertising program will tell the public the many advantages and benefits modern overhead lighting in the home offers.

ACTION 7: New Homes Booklet for Consumers, Architects and Builders

The theme of this booklet will be: How to plan modern overhead lighting for the home, and why it should

Your Way To Extra Profit "Makes Things Happen in a Room"

By Willard G. Sawyer*

President
American Home Lighting Institute

be planned in advance—its benefits; how it keynotes decoration and eases seeing; the importance of adequate wiring and fixture allowances and other pertinent information.

ACTION 8: Booklet for Consumers on Relighting of Present Homes

As the relighting of existing homes to present-day concepts of modern illumination represents a tremendous market, this booklet will point out through "before-and-after" pictures the advantages overhead lighting can bring into the home. Interesting, convincing text matter will tell how easily and economically too the home may take on an entirely new character of brightness and cheer through overhead lighting.

ACTION 9: Sales Manual for Dealers

The theme of this booklet will be "How to Sell Planned Overhead Lighting in the Home." It will serve to help dealers and their sales people in the most effective sales and merchandising techniques in presenting the story of overhead lighting.

ACTION 10:A Folder for Electric Utilities

This folder will point out the ways utilities can better serve their customers with adequate, fixed, modern overhead lighting in the home.

ACTION 11: Newspaper Mats

To simplify the preparation of local advertising by dealers and utilities, we will have available advertising mats of various sizes.

ACTION 12: Development of Display Equipment

So that the public may become even more aware of the benefits offered by modern overhead lighting, we will develop display equipment for dealers whereby they can adequately and properly present lighting for the home.

ACTION 13:A Sales Manual for Electrical Wholesalers

This manual will suggest to the wholesaler and his salesmen how to increase his profits through the sale of modern overhead lighting for the home. It will show the new profit opportunities that exist on every ceiling in the home and how to make the most of them.

ACTION 14: Certified Lighting Equipment

In the interest of utilizing light sources to the best possible advantage, specifications are being developed to establish new standards in the art of illumination in the home.

ACTION 15: Labels for Certified Equipment

Labels will be affixed to all certified equipment to assure the purchaser of compliance with the specifications as written by the American Home Lighting Institute.

The certified designs will manifestly offer an unexcelled opportunity for the wholesaler's salesman to increase the scope of his lighting sales. An entirely new concept of home lighting is permeating the residential lighting industry. Our designers and engineers are thinking in terms of new high levels of illumination for the home hitherto considered unattainable.

This does not mean the immediate abandonment of all designs or types current before the war, but rather the supplementing of those styles with new and dramatic units, daring in their originality and which, as so aptly put by one of our members, "when lighted, will actually cause something to happen in the room."

These new instruments of illumination will adequately justify a carefully planned reorganization of the wholesaler's Home Lighting Department. We suggest a trained specialist in charge of the department. Have this specialist train all salespeople under him. Sell intelligently. Don't sell a fixture—sell illumination *performance*. Sell UP—not DOWN. Modernize your display.

Hold frequent meetings for dealers and contractors and explain to them this new concept of lighting. Your local utilities will welcome your working closely with them and will reciprocate to your advantage. Get your samples into demonstration homes wherever possible. Advertise. The AHLI newspaper mats will make this easy and effective. Get publicity. Your local newspapers are always looking for news for their "Home Makers" sections.

A special committee from the National Electrical Wholesalers Association is being appointed to work with the American Home Lighting Institute as a logical step in cooperation between our organizations. Together we are going places.

**President,*
John C. Virden Co., Cleveland, O.

You Get All These Features in Allbright Models
END PLATES FINISHED IN BANK BRONZE OR WHITE BAKED ENAMEL
EQUIPPED WITH ⅜ FLANGES FOR SUSPENSION MOUNTING
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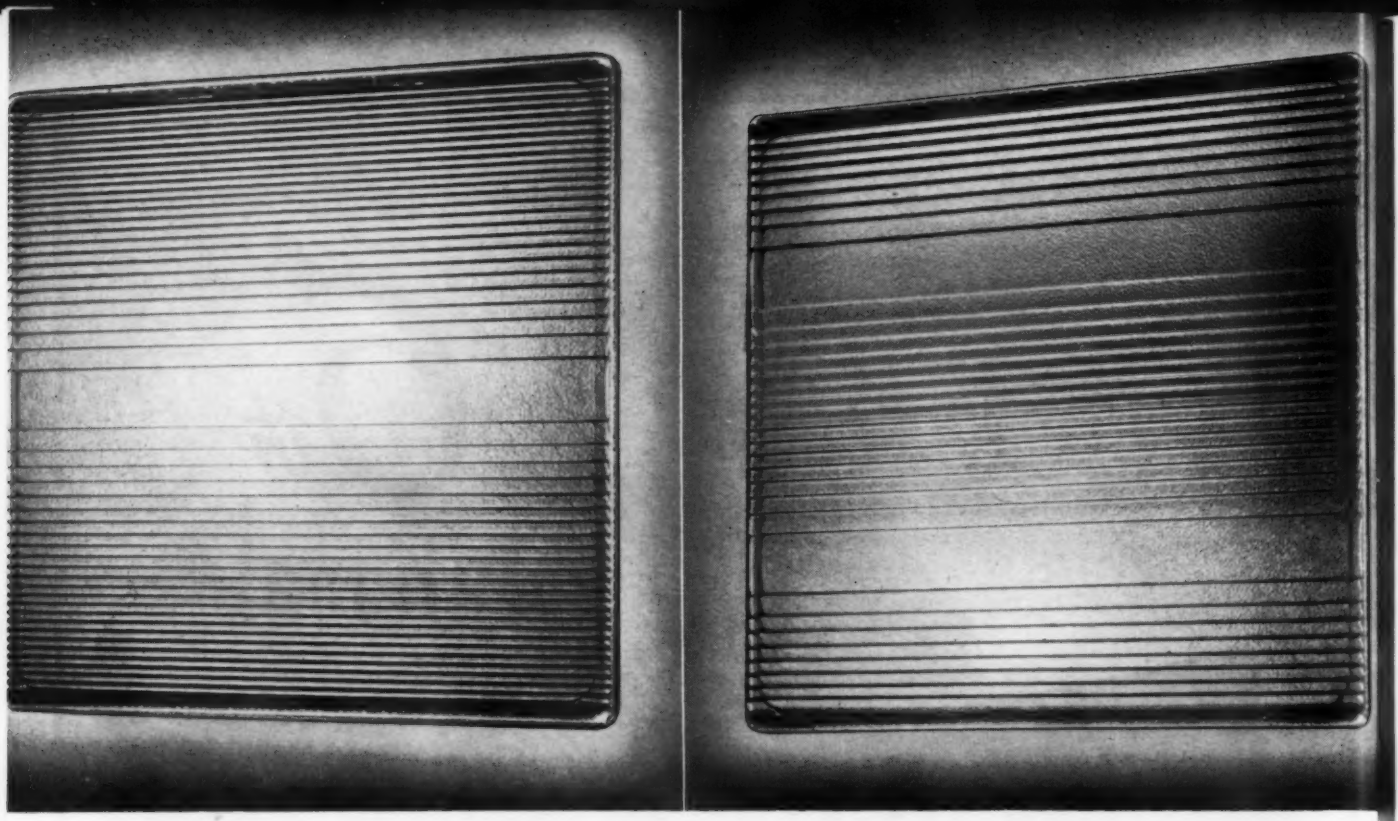
STAGED BY

WHOLESALER'S SALESMAN

SEPTEMBER • 1945



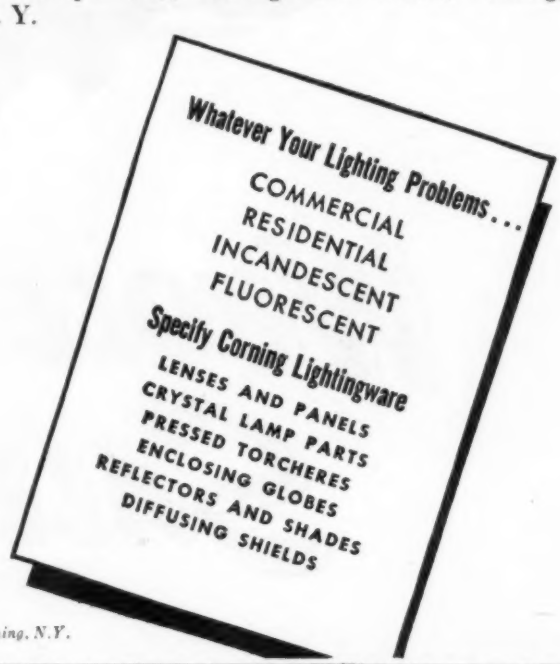
FLEXIBILITY PLUS EFFICIENCY WITH CORNING "*Flur-O-Guide*" LENS PANELS

THE Unilens and Twinlens shown here are two examples of the complete line of CORNING *Flur-O-Guide* lens panels which are designed to provide maximum flexibility and efficiency in fluorescent lighting.

Available in widths of 6″, 8½″, and 11″, these lens panels will accommodate 1, 2, 3 and 4 rows of line light sources with the proper panel width. Lengths from 12″ to 60″ provide complete coverage of all sizes of standard and slimline fluorescent lamps up to 60″ with a one-piece lens panel. The longer panels result in reduced maintenance and uninterrupted prism design.

CORNING *Flur-O-Guide* lens panels provide precise light control with low panel brightness. The prisms of the Fresnel type lens design are large and accurately defined. The rear surfaces are either stippled or fine-lined to increase the light interception by the lens and to minimize the image of the lamp. Dark spots are eliminated and there is no objectionable glare. Adequate, uniform illumination is provided where it is needed. The luster and brilliance of the glassware plus the attractive appearance of the Fresnel type lens design, produce an extremely pleasing effect—lighted or unlighted.

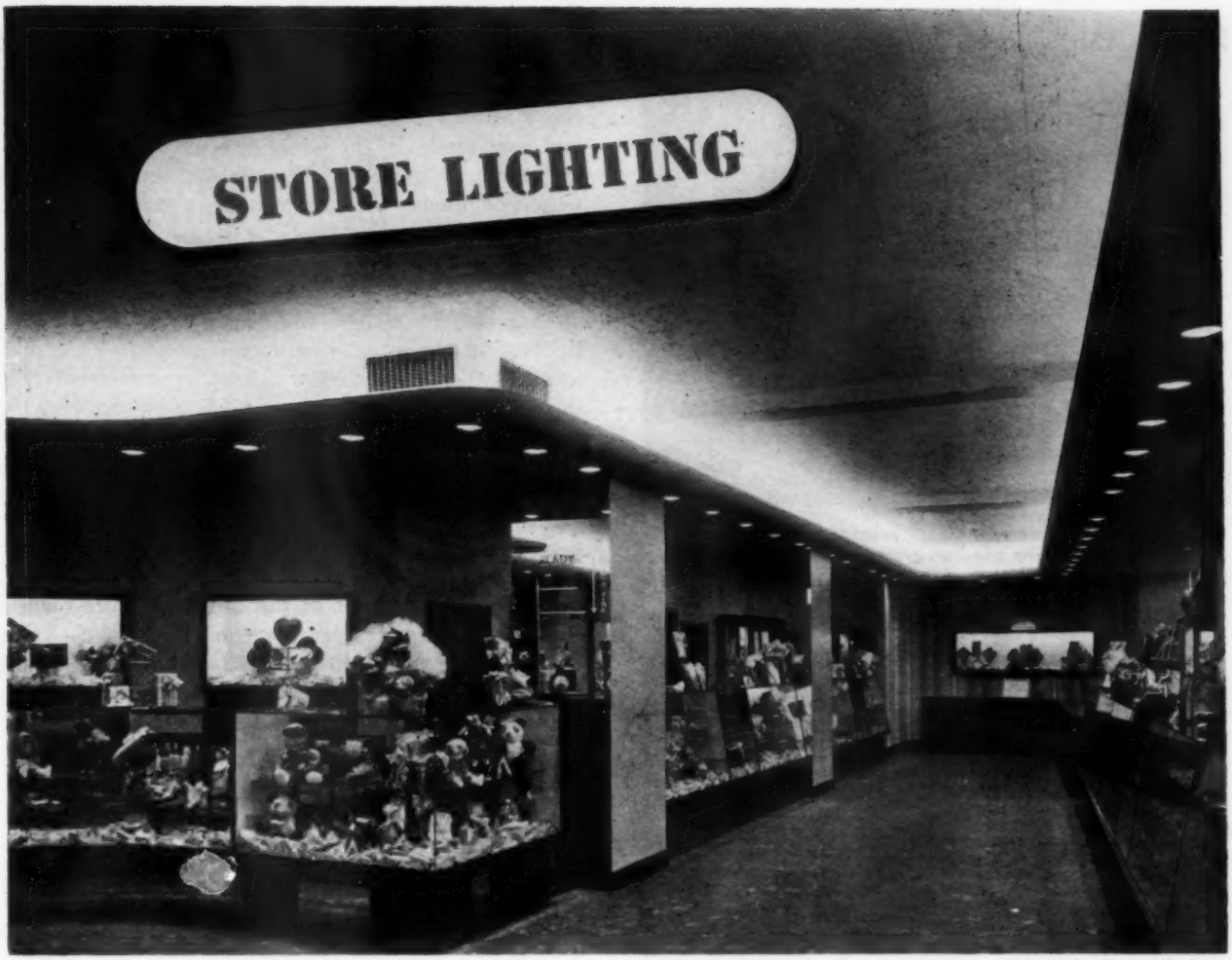
Complete details on CORNING *Flur-O-Guide* lens panels are given in the CORNING "Lighting Data Book." Write for your copy today. Write Lighting Sales Dept. WS9, Corning Glass Works, Corning, N. Y.



"CORNING" is a registered trade-mark and indicates manufacture by Corning Glass Works, Corning, N.Y.

CORNING *means* esearch in Glass

Corning Engineered Lightingware
BRAND



Fixtures by Gruber Brothers

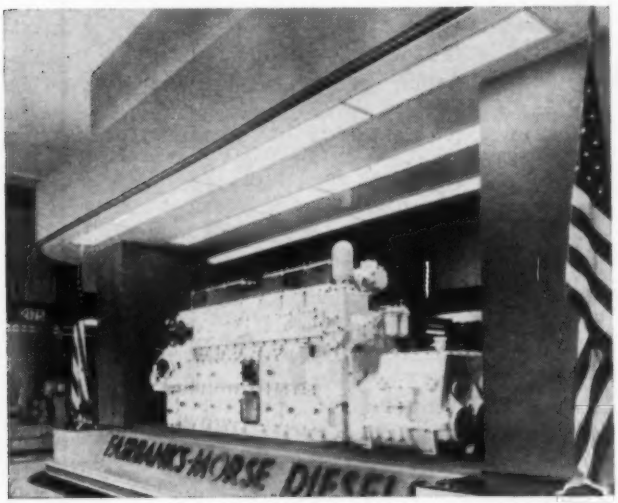
From These State Figures You Can Gauge the Volume Of Lighting-Sales Opportunities in Your Territory TODAY

STATE	Department Stores	Other Retail Stores
Region I—New England	**118**	**121,770**
Maine	14	13,441
New Hampshire	8	7,427
Vermont	9	5,414
Massachusetts	57	59,160
Rhode Island	9	10,476
Connecticut	21	25,852
Region II—Middle Atlantic	**355**	**412,464**
New York	152	209,273
New Jersey	40	68,811
Pennsylvania	163	134,380
Region III—E. N. Central	**345**	**364,163**
Ohio	85	92,956
Indiana	63	47,254
Illinois	87	109,045
Michigan	54	67,360
Wisconsin	56	47,548
Region IV—W. N. Central	**247**	**197,662**
Minnesota	61	40,387
Iowa	41	38,983
Missouri	42	53,154
North Dakota	19	8,530
South Dakota	15	9,802
Nebraska	32	19,298
Kansas	37	27,508
Region V—South Atlantic	**520**	**198,851**
Delaware	5	4,539
Maryland District of Columbia	41	32,418
Virginia	74	29,536
West Virginia	86	18,842
North Carolina	127	33,699
South Carolina	58	18,462
Georgia	95	32,775
Florida	34	28,580
Region VI—E. S. Central	**393**	**100,672**
Kentucky	46	30,873
Tennessee	56	28,142
Alabama	126	23,790
Mississippi	165	17,867
Region VII—W. S. Central	**442**	**139,326**
Arkansas	119	20,209
Louisiana	103	25,366
Oklahoma	49	28,673
Texas	171	85,078
Region VIII—Mountain	**121**	**57,338**
Montana	28	8,453
Idaho	14	6,790
Wyoming	11	4,102
Colorado	24	16,761
New Mexico	19	6,598
Arizona	14	6,228
Utah	10	6,362
Nevada	1	2,044
Region IX—Pacific	**186**	**155,382**
Washington	43	26,639
Oregon	21	16,437
California	122	112,306
Total—United States	**2,727**	**1,767,628**

STORE LIGHTING

Recessed incandescent spot lights provide a brilliant, modeling light for this store window, giving effect of overhead sun on the outdoor-style clothes. Fixtures by Pittsburgh Reflector.

Home furnishings grow where appliances were displayed prewar, and a new lighting installation helps merchandise the many items. Ceiling mounted 4-40 watt units in two rows spaced 8 feet apart. Fixtures by Gruber Brothers.



Store window in Chicago building lobby, with recessed fluorescent lighting which provides 3050 footcandles of illumination on the display. 8½- by 48-inch Corning Glass panels cover each set of two 40-watt lamps.

LIGHTING retail stores offers the wholesaler's salesman more immediate prospects for volume sales than any other bracket of the lighting market. Store owners and managers are accessible at all times, and their attention should be directed toward the urgent need of preparing their establishment for the period of intense competition that is ahead for the retail merchandising field.

Good Lighting Is Needed

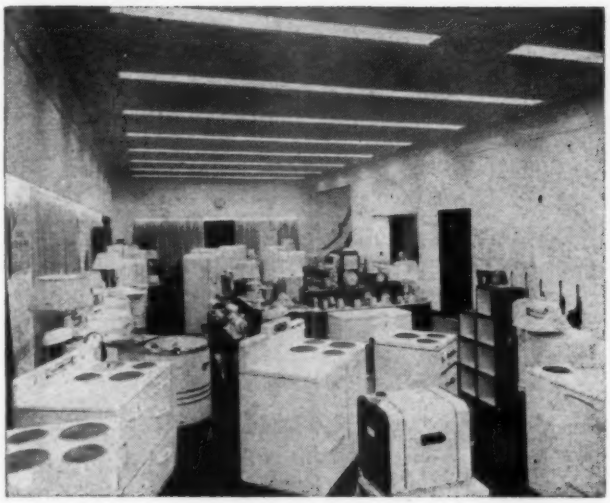
Most of these owners and managers know that good lighting will be an essential factor in meeting the challenge of their competition. Attractive storefronts and storewindows, with well-designed lighting drawing the customers to the store, and a combination of high-level and spot lighting inside to make the shopping task more pleasant and to increase the appeal of the goods —this lighting can be sold by wholesaler's salesmen to most of these stores or the electrical contractors who serve them.

Seventy-fixe percent of the country's store owners —those whose stores are inadequately lighted—know what a decided advantage has been enjoyed during the war years by the 25 percent of store owners whose establishments had been re-lighted or newly-built in the years just before the war.

Start Selling Now

Alert wholesalers' salesmen should be in touch right now with the retail store owners and managers in their territories, helping these men in planning re-lighting that will provide the most effective presentation of their goods within the store and to project new store front lighting that will draw customers from outside into the store. By that process salesmen will be building the foundation for volume sales of lighting fixtures, lamps, wiring materials and supplies that will start moving as soon as fixtures and materials come through in larger quantities.

This small-city department store comes up-to-date with flush-mounted fluorescent lighting. About 200 fixtures were used to give average of 25 to 32 footcandles. Ceiling is 17½ feet high. Fixtures by Curtis.



Good lighting, always a sales tool. This public utility showroom has continuous rows, 6 feet apart, of 2-30 watt lamps end-to-end at 11 feet 7 inch ceiling height. Recessed trough fixtures by Wheeler Reflector Co.

Fluorescent lighting has been installed within showcases to supplement general incandescent lighting in this department store. High-level showcase lighting draws attention to items displayed. Fixtures by Guth.

Large Detroit drug store illuminates its thousands of items with 3-40 watt fluorescent fixtures finished in baked white enamel. Arrangement allows sufficient light on counter merchandise. Fixtures by Day-Brite.

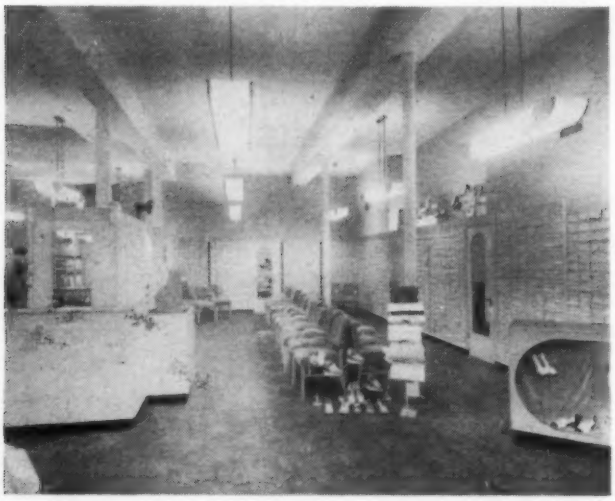
Fluorescent arrangements were planned to suit the needs of this drug store. Center fixtures provide general illumination while side fixtures have opposite placement so that light is directed toward merchandise. Sylvania fixtures.

Good lighting makes a night-time showroom of this furniture store window. Forty-watt lamps butted end-to-end in show window lighting reflectors are supplemented by smaller units. Fixtures by Day-Brite.

No glare spots, even with use of glass-top counters in this stationery store. Thirty-three footcandles of illumination, with light directed on merchandise by egg-crate bottoms on these fluorescent fixtures. Fixtures by Guth.

New drug store in Alabama utilizes 35 footcandles of illumination on counters, showcases, shelves, with surface-mounted fluorescent fixtures plus spotlights and small fluorescents in showcases. Fixtures by Sylvania.

An excellent combination of recessed fluorescent for general lighting, plus incandescent spots to feature displays in this ultra modern women's shop. Lighting becomes part of decorative theme. Fixtures by Pittsburgh Reflector Co.



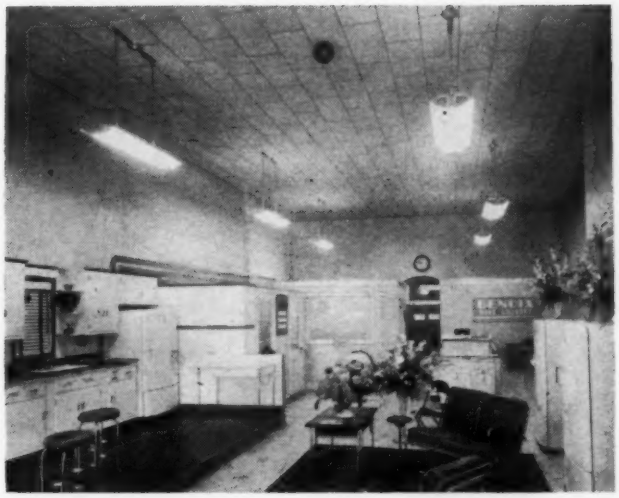
Attractive fluorescent fixtures add greatly to a shoe department. High level lighting aids clerks in reading labels on boxes, shows color and quality of shoes to customers. Fixtures by Holophane.

Combination fluorescent-incandescent installation uses daylight fluorescent lamps in recessed troffers, with 300-watt recessed incandescent lamps with concentric louvres, on a 12 foot ceiling. Fixtures by Guth.

Fluorescent lighting makes this store window stand out against competition in Minneapolis. Specular Alzak reflectors for 4-40 watt lamps are used. Lamps are butted end-to-end. Fixtures by Day-Brite.

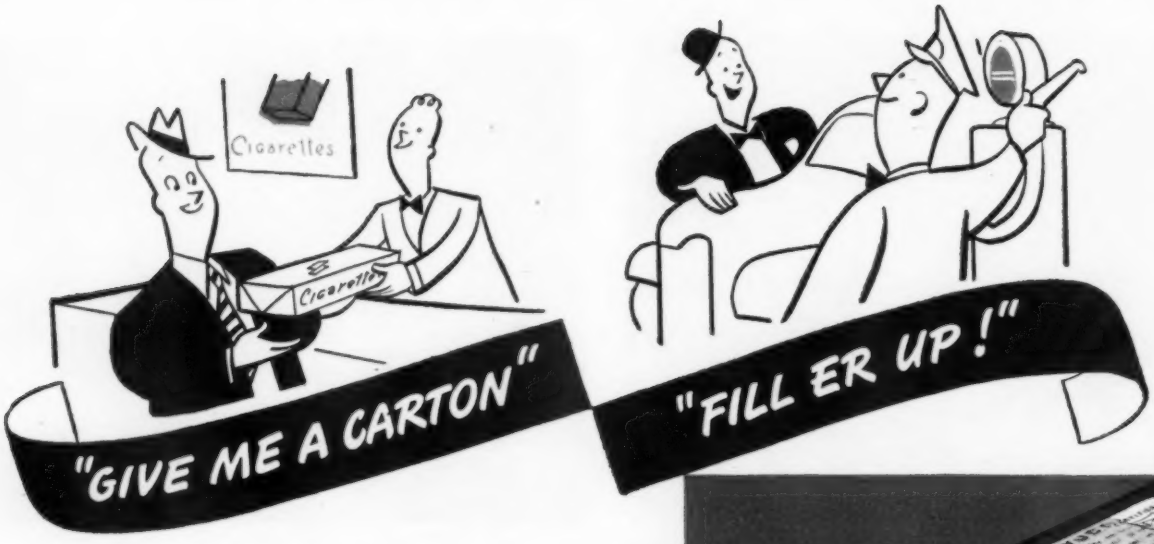
Cashier and credit department gets 35 footcandles from this installation in Meridan, Conn. Continuous system, spaced 4 feet apart, on a 13 feet 9 inch ceiling, combined with sound-deadening ceiling panels. Fixtures by Miller.

Mounted on this 15-foot ceiling, continuous rows of 4-40 watt fluorescent fixtures, provide 24 footcandles for this Kresge store in Boston. Bottom lens panel and opal diffusing side panels were made by Corning Glass Works.



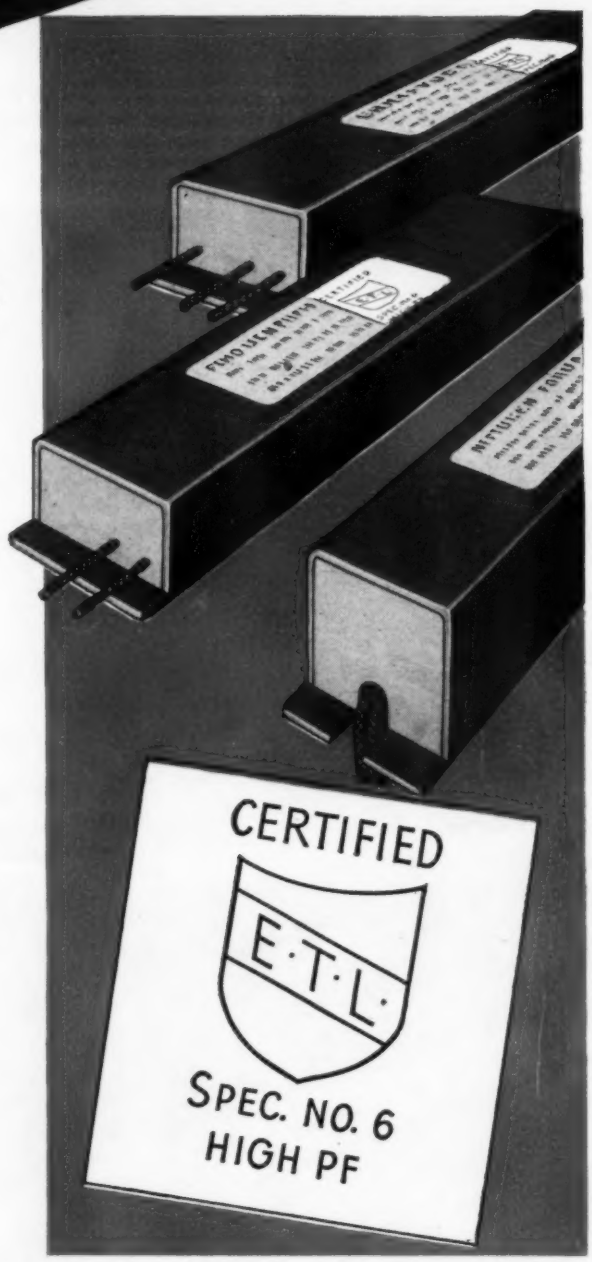
Pre-war appliance showroom gives hint to size of this market for lighting now when stores are remodeling for peacetime sales. Merchandise sparkles under 35 foot-candles from 4-40 watt fixtures. Fixtures by Guth.

One of the largest of the many Woolworth stores demonstrates the value of high level lighting, particularly where so many items must be available for customer selection. Continuous rows of 3-40 watt fixtures flush mounted, and wired to provide three levels of lighting, give a maximum of 75 footcandles of illumination at counter level. There are many thousands of variety stores that need up-to-date re-lighting jobs. Fixtures made by the Frink Corporation.



. . . and won't it be great when you can always give your fixtures the sales appeal of

Certified Ballasts



Yes sir, there's no getting around it. Fluorescent fixtures do have greater sales appeal with Certified Ballasts. And here are the reasons why:

1. **Certified Ballasts are made** to give top performance and dependable service . . . as your customers know.
2. **They're built** to definite specifications . . . to assure better lamp performance, as leading fluorescent tube makers recognize. Because, with Certified Ballasts, they will guarantee lamp performance.
3. **They're subject** to exhaustive testing by famous Electrical Testing Laboratories, Inc., and Certified by them as meeting the specifications.

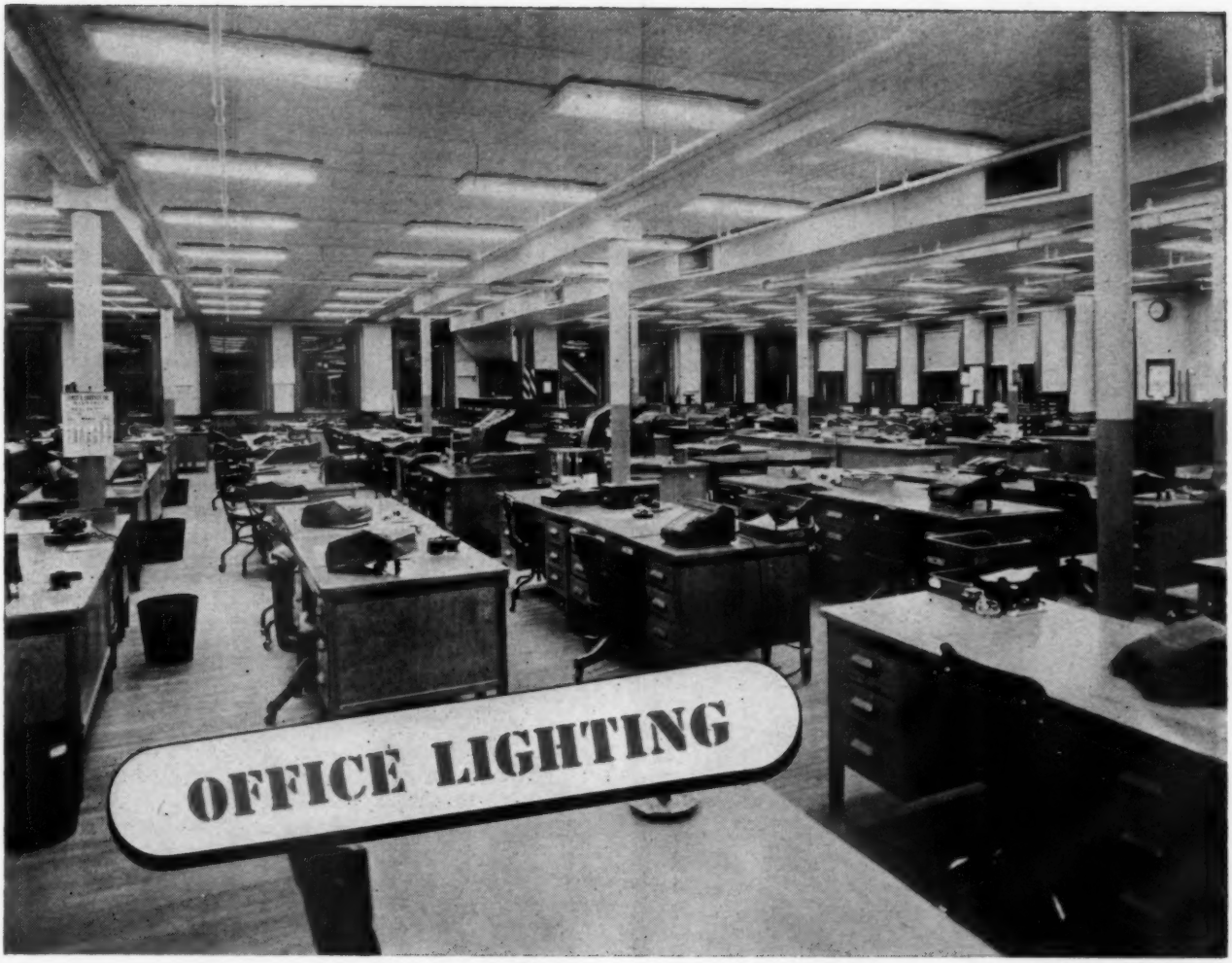
Good reasons why you'll want the confidence-building power of Certified Ballasts behind *your* fixtures!

Incidentally Certified Ballasts will be ready as soon as materials are freely available . . . *ready as soon as any.* Make this Certification label part of your buying specifications . . . for greater sales appeal tomorrow!

Certified Ballast Manufacturers

MAKERS OF BALLASTS FOR CERTIFIED FLUORESCENT LIGHTING FIXTURES

2116 KEITH BUILDING • CLEVELAND 15, OHIO



Fixtures by A. L. Smith Iron Co.

From These State Figures You Can Gauge the Volume Of Lighting-Sales Opportunities in Your Territory TODAY

STATE	Office Buildings 1939
Region I—New England	**3,420**
Maine	124
New Hampshire	179
Vermont	50
Massachusetts	1,820
Rhode Island	269
Connecticut	978
Region II—Middle Atlantic	**3,002**
New York	1,625
New Jersey	461
Pennsylvania	916
Region III—E. N. Central	**4,456**
Ohio	1,986
Indiana	532
Illinois	792
Michigan	761
Wisconsin	385
Region IV—W. N. Central	**1,743**
Minnesota	358
Iowa	337
Missouri	703
North Dakota	31
South Dakota	47
Nebraska	128
Kansas	139
Region V—South Atlantic	**1,614**
Delaware	22
Maryland, District of Columbia	231
Virginia	224
West Virginia	214
North Carolina	186
South Carolina	93
Georgia	212
Florida	432
Region VI—E. S. Central	**526**
Kentucky	163
Tennessee	193
Alabama	126
Mississippi	44
Region VII—W. S. Central	**869**
Arkansas	98
Louisiana	126
Oklahoma	213
Texas	432
Region VIII—Mountain	**856**
Montana	67
Idaho	91
Wyoming	29
Colorado	186
New Mexico	22
Arizona	16
Utah	77
Nevada	24
Region IX—Pacific	**1,689**
Washington	448
Oregon	187
California	1,054
Total—United States	**18,175**

OFFICE LIGHTING

A variety of fluorescent fixture styles is available to suit the needs and the tastes of any wholesaler's salesman's prospects. Fixtures by Leader Elec. Mfg. Corp.

THE large office lighting market is ready now. The shortage of office-type fixtures has held back the re-lighting of many thousands of offices, large and small, throughout the country for several years. Even before these fixtures are again freely obtainable, the wholesaler's salesmen have a golden opportunity to line-up a sizable volume of sales by putting their best selling effort into this field.

Workers in 80 percent of the large office buildings and in 90 percent of the small office buildings "took a beating" during the war. Inadequate lighting was their companion during long working hours and overtime. These workers, as well as the employees who pay for errors, inefficiency, and poor morale, are now going to want the high-level, low-glare lighting which the wholesaler's salesman has to offer.

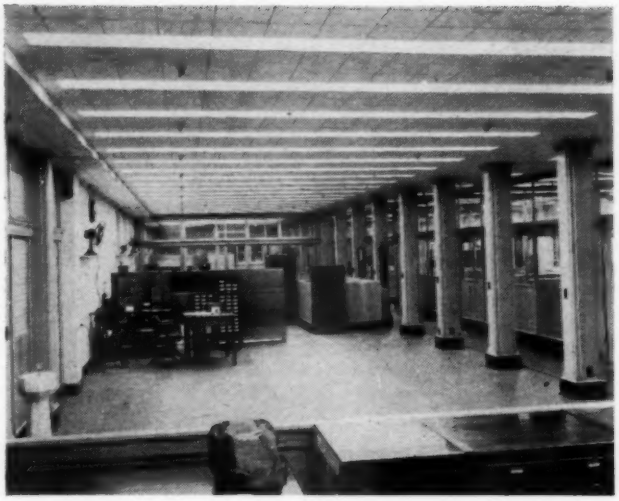
Building owners who have office space to rent can be sold re-lighting because by providing modern high-intensity lighting they gain a valuable competitive advantage over less progressive landlords.

Recessed troffers, each with 2-40 watt lamps, spaced 10 feet by 10 feet, in this office provide 21 footcandles of illumination. Ceiling height is 12 feet. Arrangement adds beauty as well as light. Fixtures by Holophane.

Executive offices of a Chicago adding machine company use 4-40 watt lamp U.R.C. type fixtures in nearly-continuous rows to get high-intensity, low glare lighting. With workers closely spaced, general lighting is necessary. Fixtures by Mitchell.

Plugged-in industrial type fluorescent fixtures were the solution in re-lighting this office. Each fixture is controlled by a switch on the column. Fixtures had to be dropped below beamed ceiling. Photo from Wiremold.

Well shielded 4-40 watt fluorescent fixtures, spaced 10 feet 6 inches by 11 feet, 10 feet from floor, one foot from ceiling, provide 25 footcandles in this Standard Oil office. Fixtures by Wheeler Reflector Co.



General offices of a New England hardware firm, use continuous wireway fluorescent troffers in an 11 foot 2 inch ceiling with 4 feet between rows. Fixtures by Miller.

Both beauty and high-intensity lighting were designed for this business office. Continuous rows of troffers are set into the ceiling. Fixtures by Holophane.

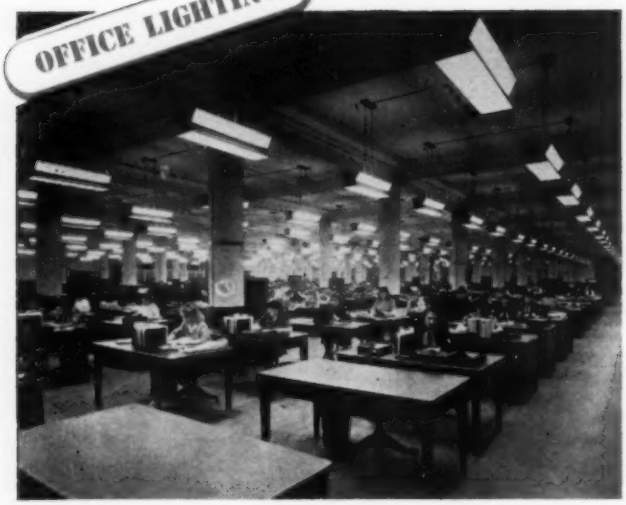
These Engineering offices get 84 footcandles of illumination from deep-troffer 2-40 watt fluorescent fixtures using baffles. Ceiling height is 10 feet 8 inches, spacing is 4 feet by 6 feet. Guth fixtures.

Newly-remodeled offices of instrument manufacturer, get 50 footcandles of up-to-date lighting from 2-40 watt fluorescent fixtures, mounted on 9 by 9 foot centers, 9 feet from the floor. Fixtures by Westinghouse Lighting Div.

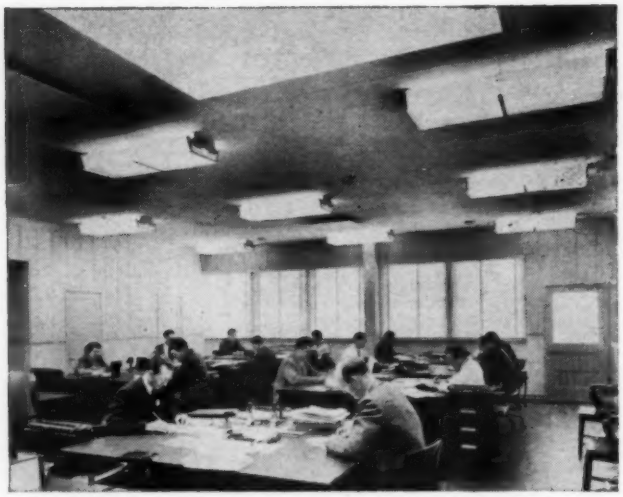
About 25 footcandles of illumination for this business office of the Ohio Fuel Gas Company, Columbus, Ohio, through this pre-war installation of fluorescent lighting. Fixtures by Wakefield Brass.

An old-style New York office becomes brilliantly lighted with an up-to-date installation of fluorescent fixtures in groups of three, with light-colored walls and ceilings to help. Fixtures by A. L. Smith Iron Company.

OFFICE LIGHTING

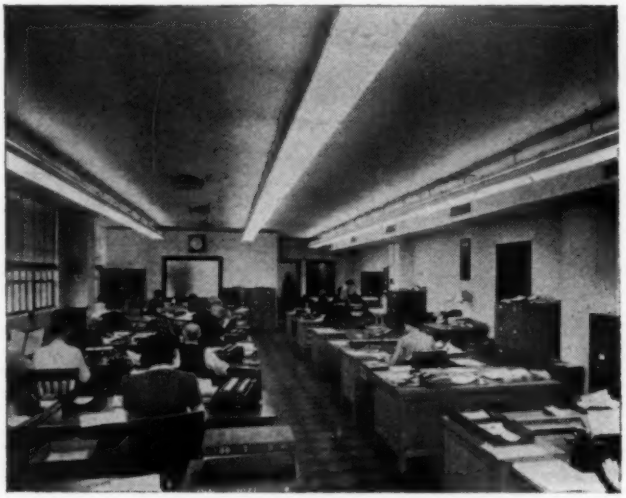


In re-lighting this office, four fluorescent fixtures are used where one light existed before. Raceway from the old outlet serves the new fixture. Photo from Wiremold.



Surface-mounted fixtures of the U.R.C. type give 40 footcandles in this engineering office. Ceiling height is 10 feet. Fixtures are spaced on 9 foot centers. Fixtures by Mitchell.

Design called for 65 footcandles of illumination. Two hundred and thirty fluorescent units, mounted 9 feet, 8 inches high from 12 foot ceiling, spaced on 5 foot 9 inch centers did the job. Fixtures by F. W. Wakefield Brass Co.

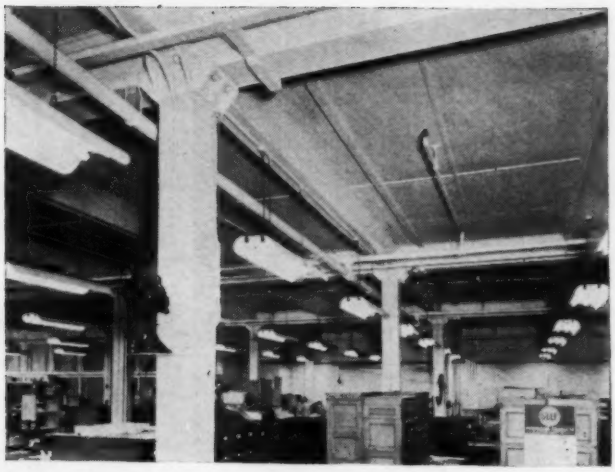


White walls and buff-colored venetians in this 58 by 26 foot office, plus three continuous rows of 3-40 watt fluorescent fixtures, mounted six inches below the 11-foot ceiling, provide more than 50 footcandles. Guth fixtures.

Egg-shell white ceiling, light cream walls, and 4-40 watt fluorescent fixtures, dropped 18 inches from a nine-foot ceiling, provide 35 to 45 footcandles for this newspaper office. Fixtures by Guth.

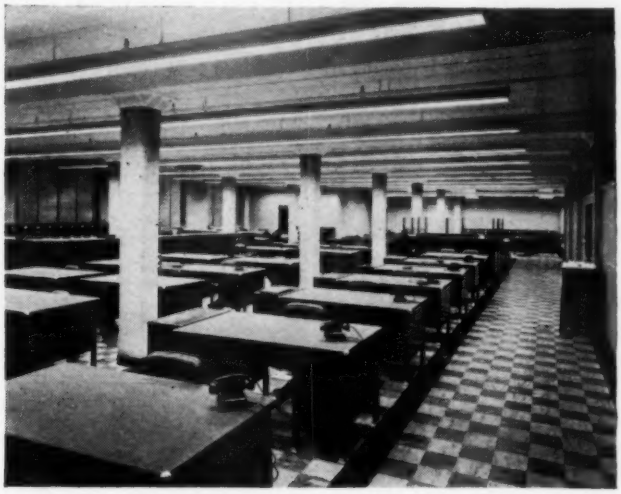
Special, low-brightness glassware on these 3-40 watt fluorescent fixtures, plus steel egg-crate louvres, provide soft, 50 footcandle illumination for this office. Rows are 10 feet apart. Fixtures by Guth.

Sixty footcandles of illumination on the desks of this railroad traffic department office with continuous rows of open-type fluorescents on 9'6" mounting height. Fixtures by Guth.



A simple method of re-wiring was utilized in this lighting job. Four runs of raceway from panel boxes on far wall supply fluorescent units and the fans. Photo from Wiremold.

BEFORE. Old style lighting in this Chicago office gave uneven lighting on the desks, caused glare and high lights at the light source lines. A fluorescent job was designed to replace it.



AFTER. Ugly appearance of mill roof construction and sprinklers was minimized by these continuous fluorescent strips suspended by one-stem hangers. Thirty-five footcandles from 12 40-foot lengths. Curtis photo.

Another wholesaler who practices what he preaches. Terry-Durin Co., wholesalers in Cedar Rapids, Iowa, show how well-lighted an office should be. U.R.C., 4-40 watt fixtures, mounted in sets of two are used. Fixtures by Mitchell.

Every aid to good seeing has been provided in this up-to-date office. Highly-reflective wall board for ceilings and walls, plus continuous rows of fluorescent lamps in troffers. Fixtures by The Miller Co.

the RLM standards institute

and how it serves INDUSTRY

specifications

. . . . . The RLM Standards Institute is a non-profit organization operated to develop and promulgate standard specifications for the efficient performance of industrial lighting equipment. Every RLM specification is drafted by a Technical Committee, guided by the findings of the Illuminating Engineering Society, the recommendations of the Better Sight Bureau and other recognized industry associations. A specification becomes RLM Standard when it has been adopted by the members in accordance with the definite procedure proscribed in RLM Standard Institute Code of Regulations. These specifications are available without charge to everyone interested.

inspection

. . . . . Inspections and tests are made by a wholly independent laboratory . . . Electrical Testing Laboratories, Inc. Tests at the laboratory and periodic inspections at the plants of all participating manufacturers provide positive assurance that RLM Certified Industrial Lighting Units will provide the maximum value in lighting efficiency and economy.

certification

. . . . . If the equipment so inspected and tested meets the RLM specifications, the laboratory issues a label of compliance. This label, illustrated above, certifies that the industrial lighting on which it is affixed has been manufactured and inspected in compliance with the exacting procedure developed and administered by RLM Standards Institute.

participation

. . . . . A manufacturer of industrial lighting equipment may make his units in accordance with RLM specifications. If he so desires, he may at his own initiative and voluntarily submit his equipment for inspection and certification. He need not become a member of the Institute. It is only necessary for him to assume his equitable share of the cost of operating the program.

RLM STANDARDS INSTITUTE, INCORPORATED
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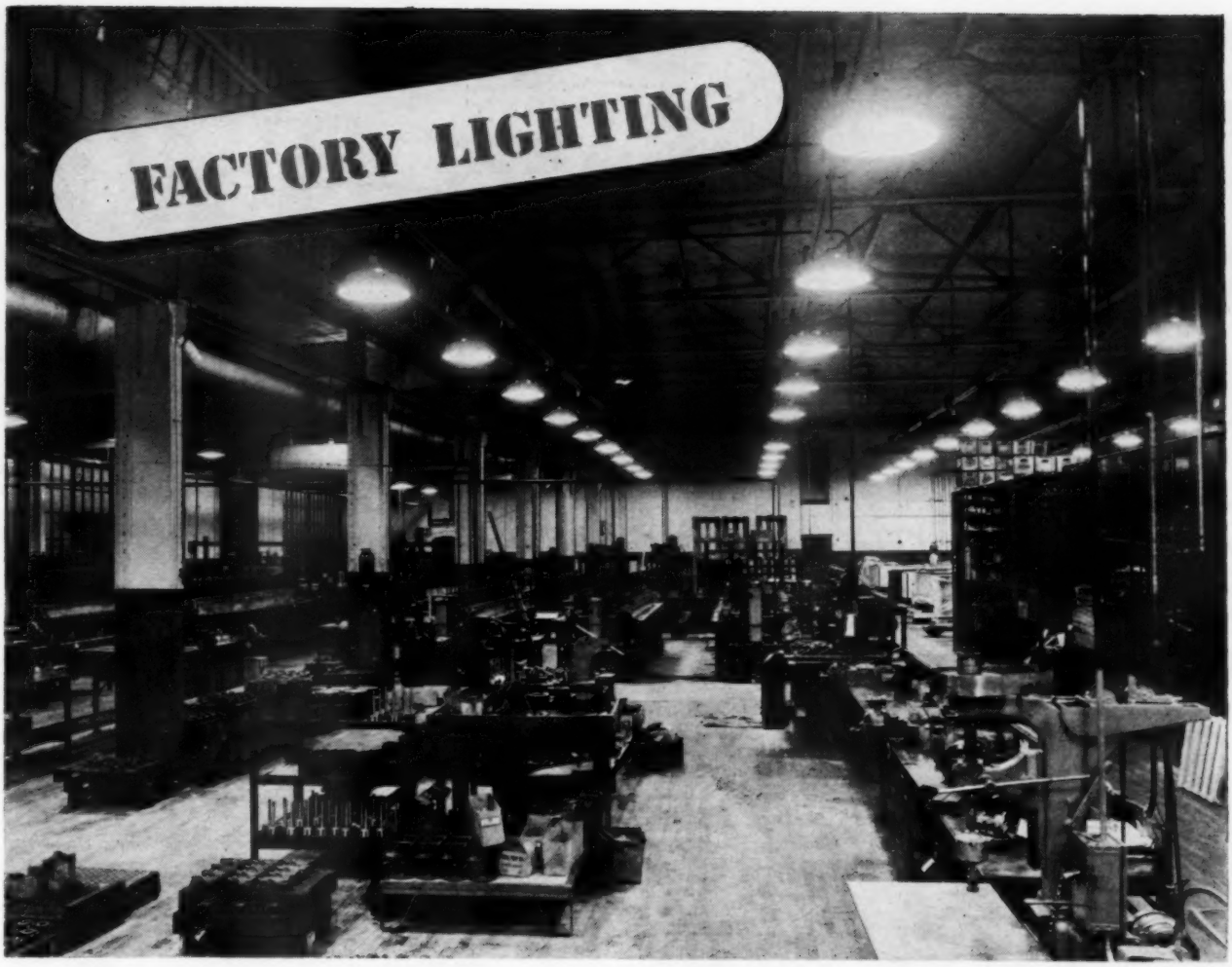
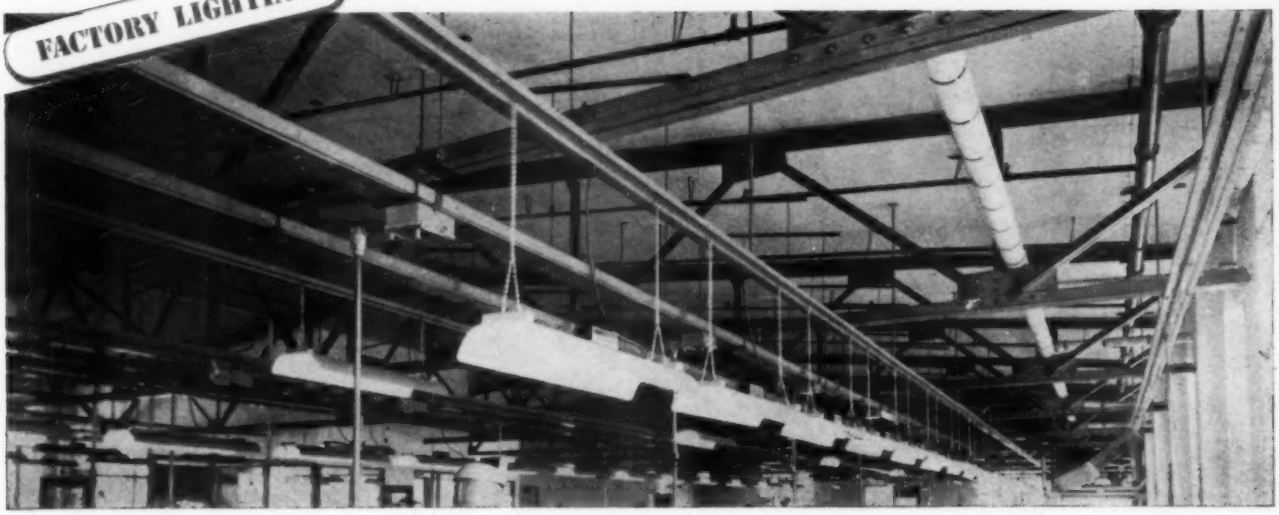


Fixtures by Benjamin Electric Mfg. Co.

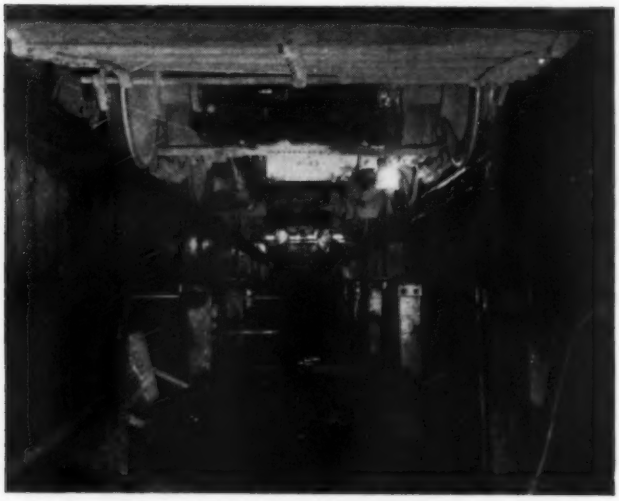
From These State Figures You Can Gauge the Volume Of Lighting-Sales Opportunities in Your Territory TODAY

STATE	Factories 1939
Region I—New England	**16,135**
Maine	1,210
New Hampshire	806
Vermont	717
Massachusetts	9,006
Rhode Island	1,460
Connecticut	2,936
Region II—Middle Atlantic	**56,300**
New York	34,514
New Jersey	7,984
Pennsylvania	13,802
Region III—E. N. Central	**40,419**
Ohio	10,070
Indiana	4,338
Illinois	12,980
Michigan	6,313
Wisconsin	6,718
Region IV—W. N. Central	**14,947**
Minnesota	4,008
Iowa	2,670
Missouri	4,796
North Dakota	351
South Dakota	468
Nebraska	1,160
Kansas	1,494
Region V—South Atlantic	**17,316**
Delaware	429
Maryland	2,893
District of Columbia	497
Virginia	2,580
West Virginia	1,130
North Carolina	3,223
South Carolina	1,331
Georgia	3,150
Florida	2,083
Region VI—E. S. Central	**7,279**
Kentucky	1,640
Tennessee	2,289
Alabama	2,052
Mississippi	1,298
Region VII—W. S. Central	**10,021**
Arkansas	1,178
Louisiana	1,861
Oklahoma	1,606
Texas	5,376
Region VIII—Mountain	**4,011**
Montana	585
Idaho	549
Wyoming	309
Colorado	1,298
New Mexico	272
Arizona	332
Utah	560
Nevada	106
Region IX—Pacific	**17,816**
Washington	3,239
Oregon	2,248
California	12,329
Total—United States	**184,244**

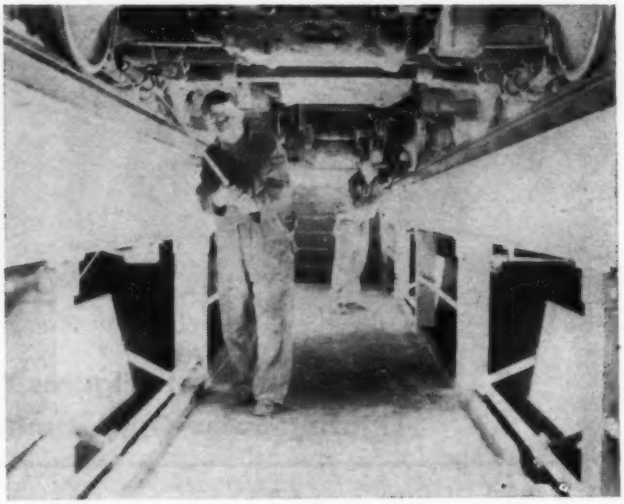
FACTORY LIGHTING



Re-lighting of this machine shop, where a very high ceiling was the problem, was solved by installing a 6-inch wide board which carries a plug-in wireway and serves also to support the fluorescent fixtures. Receptacles were spaced every six feet, allowing considerable freedom in the spacing of the lamps. The steel girders no longer interfere with the distribution of light. Light-colored sidewalls help distribute the light. Photo from Wiremold.

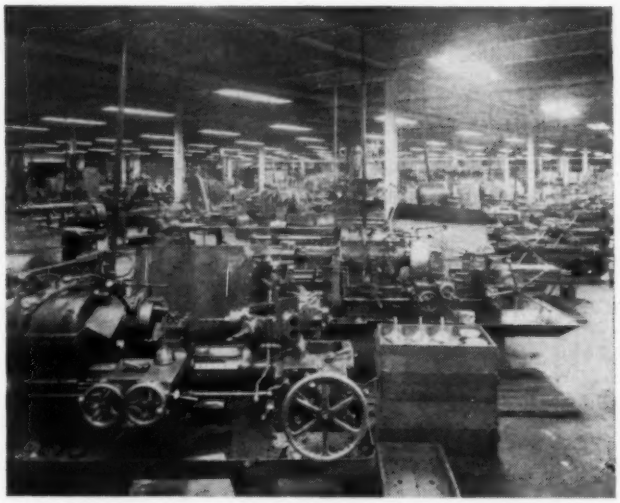


BEFORE. "Black as a pit" was no joke to the workmen using extension lights while working on the maintenance of street cars. Grease-covered bottoms of cars gave no reflection.



AFTER. Still a pit, but not black. Eight pit-lights, each with 4-40 watt fluorescent lamps in weather-proof fixtures provide average of 30 footcandles. Fixtures by Guth.

Precision tasks in machine shops need the best lighting available. Continuous rows of 2-lamp fixtures are used in this Chicago plant. Fixtures are suspended from steel cables. Fixtures by Leader Elec. Mfg. Corp.



An old style building made an efficient working area by addition of high-level lighting. Industrial fluorescent fixtures are spaced on 10 feet by 13 feet centers, and mounted 11 feet above floor. Fixtures by Benjamin.

THE war's end opens up to the wholesaler's salesman a fertile market for re-lighting 80 percent of the nation's 185,000 industrial plants.

The wholesaler's salesman can start now working with factory owners and superintendents to plan the re-lighting that will bring to more of the nation's workers the same high level, high-efficiency lighting conditions that have proven such great aids to more and better production in thousands of war-plants during the last four years.

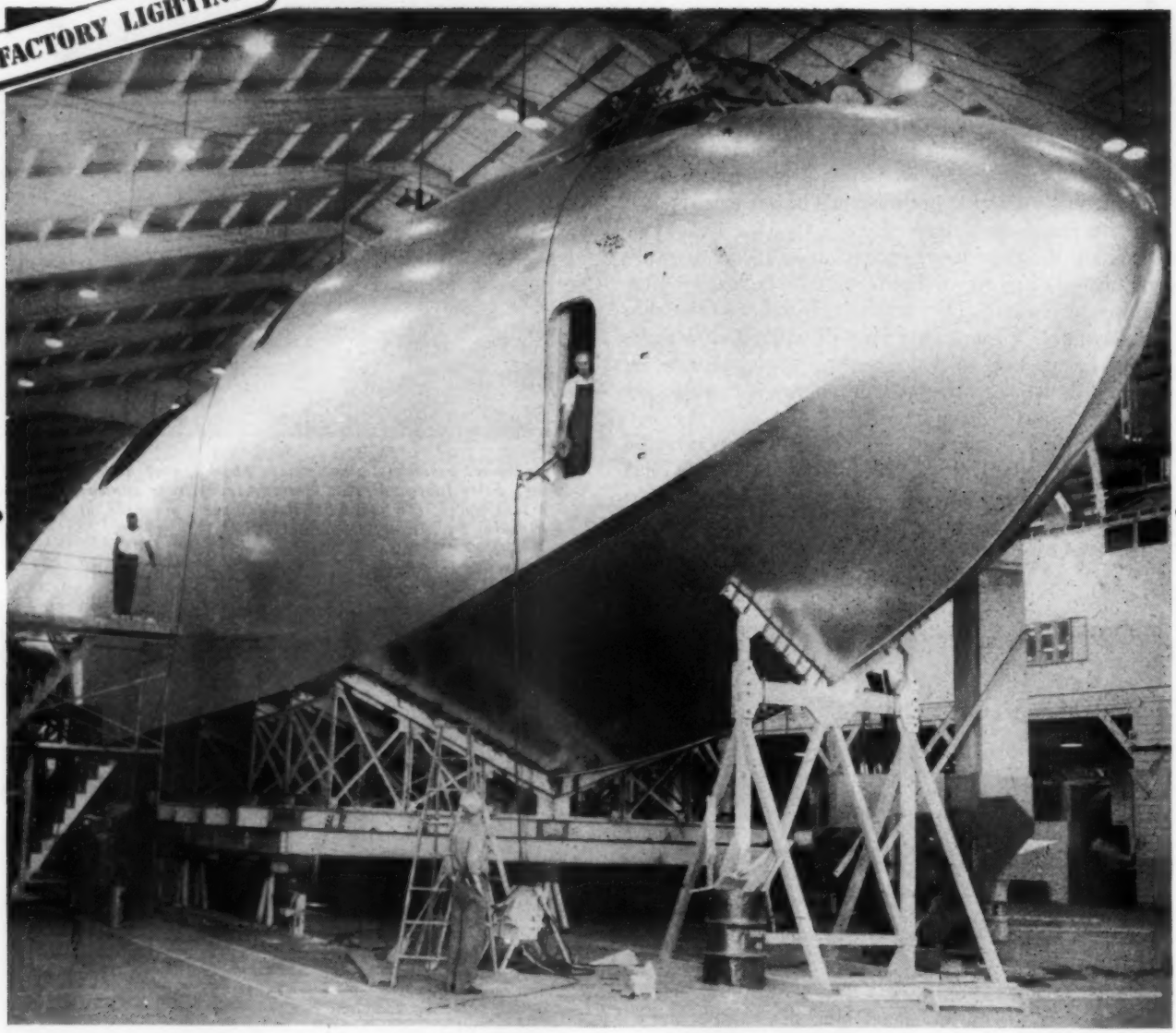
Selling these under-lighted plants on having well-engineered, high-level lighting, will be easier than before the war. The testing ground of war has priced good lighting in terms of dollars and cents saved in worker efficiency, in employee morale, in quality of work produced, in volume of work per man, in the prevention of waste.

Re-lighting of the country's industrial plants did not end with the war—it *has just begun* for the alert wholesalers' salesmen who give attention and effort to this fertile market.

Radio-set assembly plant makes good use of high-level lighting. Fifty footcandles at working level from continuous rows, 9 feet apart, of 4-40 watt fluorescents, mounted at 10 feet. Fixtures by Miller Company.

One of industry's most eye-straining occupations—the composing room of a printing plant—has been made easier on the employees' eyes, and more efficient for the company's management, by this installation of closely spaced industrial-type fluorescent fixtures. Mercury lamps also are common for composing-room lighting. Fixtures by Mitchell.

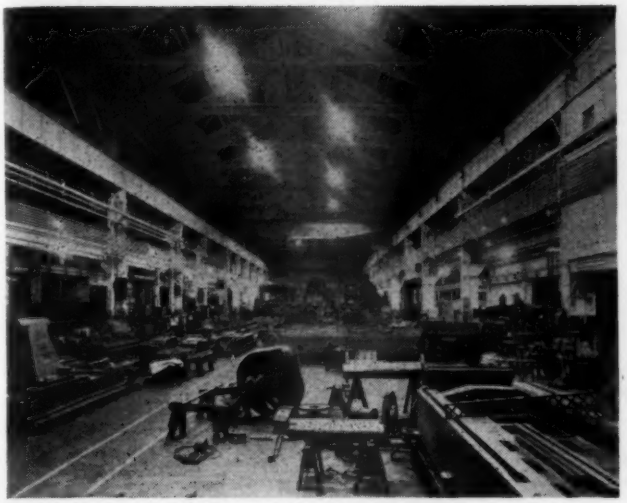
FACTORY LIGHTING



Big lighting job for world's largest airplane. All previous lighting of airplane manufacturing plants was dwarfed when Hughes Aircraft Company started work on the $20,000,000, 200-ton, flying boat "Hercules" at Culver City, Calif. Twin units equipped with 400-watt mercury lamps, supplemented by single unit, 750-watt incandescent lamps, produce 50-foot-candles. Fixtures were made by Smoot-Holman Company.
Photo from Press Association, Inc.

A pump manufacturer has his plant lighted with 400-watt mercury lamps using threaded hood glassteel diffusers, for efficient machining operations. High ceiling prevented use of any indirect lighting. Fixtures by Benjamin.

Fine assembly work in this relay-manufacturing plant is aided by 60-footcandles of illumination. Fluorescent units in continuous rows, 9-feet apart, 4-feet 6-inches from working plane, are used. Fixtures by The Miller Company.

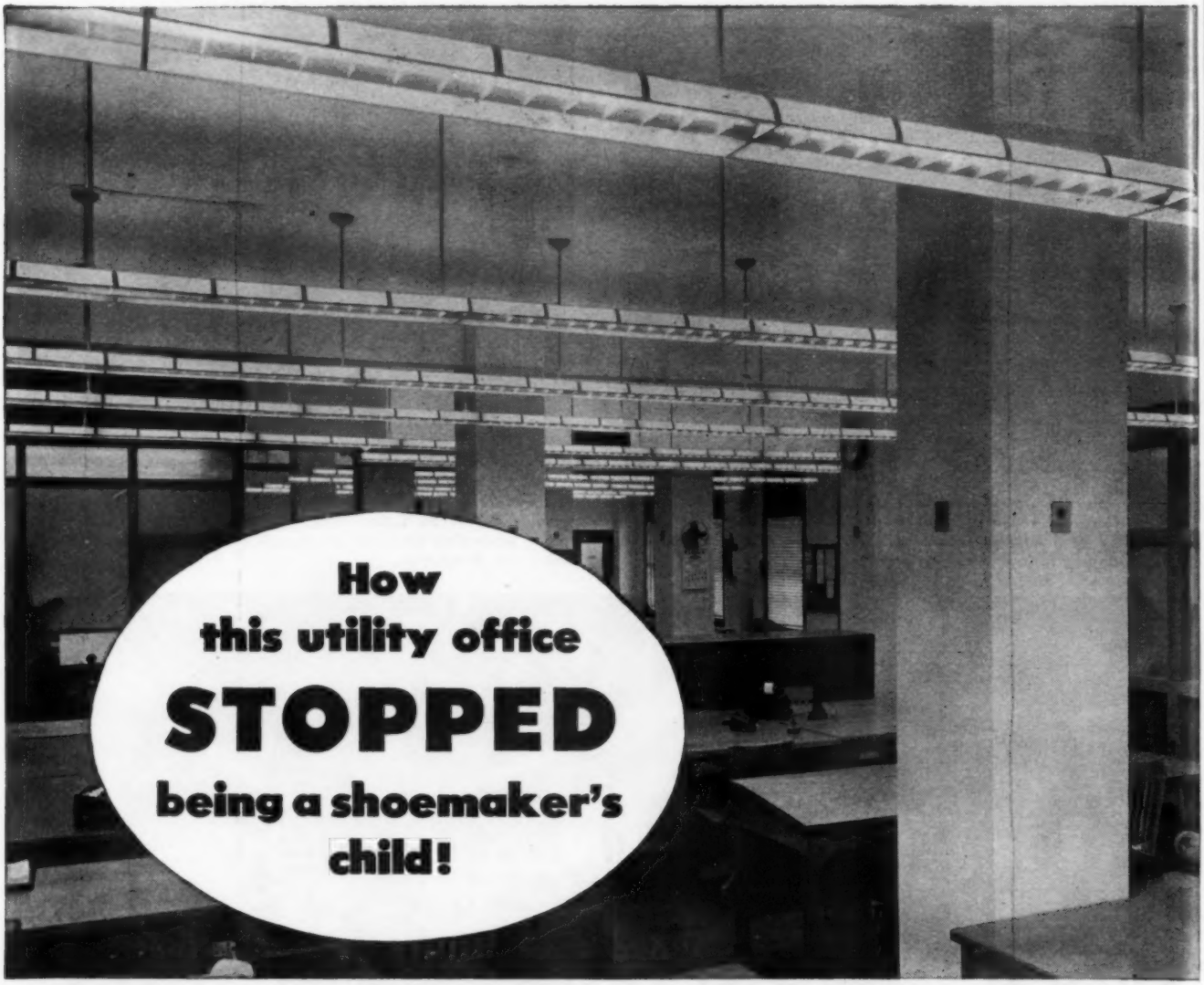


Heavy machine work, as well as precision work on small items becomes more efficient under good lighting. High installation of 3 KW units are used for general lighting in this Ohio shop. Fixtures by Day-Brite.

This materials testing laboratory has 7 rows of 10 units each, spaced 8 feet by 8 feet, and mounted 9 feet 10 inches from floor, providing about 44 footcandles initial illumination. Fixtures by Benjamin.

High-efficiency, low-waste, and high worker morale, is possible in a machine shop where high-level low-plane lighting is used. Thirty-five footcandles of illumination are provided workers here by use of industrial-type fluorescent fixtures mounted at 14 feet and spaced 12 feet apart. More than one-half the country's industrial plants still need this good lighting, and will be able to get it now that fixtures are available. Fixtures by The Miller Company.

High-intensity lighting was brought down close to the machines in this high-ceiling, steel-beamed shop. Spaced on 10-feet by 13-feet, 10 inch centers, 345 fluorescent units using 3500-degree white lamps, provide 21 footcandles of illumination on a horizontal plane 3 feet above floor. Fixtures are mounted 11 feet from floor. Improvement as this is over prewar conditions, future installations will provide more than this 21 footcandle level for machine shops. Fixtures by Benjamin.



Wanted:

An office lighting installation to set a standard for other companies on Tampa Electric's lines—and incidentally to help on its own paper work.

Problem:

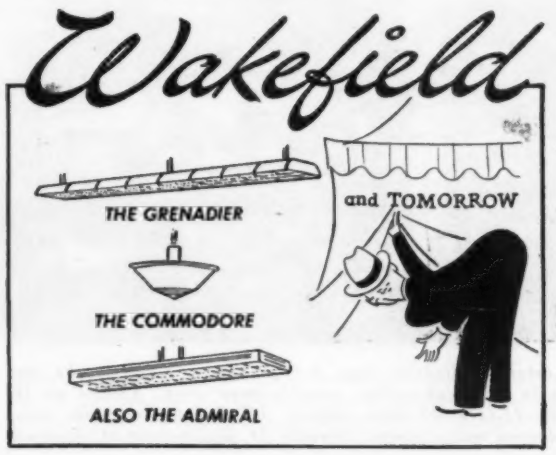
High quality, high level illumination . . . lighting as modern as the air conditioning then being installed.

Solution:

Tampa Electric chose continuous rows of Wakefield GRENADIERS (No. PG-2488) to provide plenty of cool light on desktops and diffused overall light throughout the room. They realized the importance of proper light on walls and ceiling, since this means less strain on eyes and a pleasanter place to work.

In this 40′ x 80′ room of the accounting department, 98 units were used in rows 7′ 9″ apart and 11′ above the floor (ceiling height 14′). Result: an average of 45 footcandles four months after installation.

Perhaps your customers' offices call for a different lighting treatment, different fixtures. You can be sure that Wakefield has the answer . . . and will be glad to work with you for engineered lighting performance. The F. W. Wakefield Brass Company, Vermilion, Ohio.

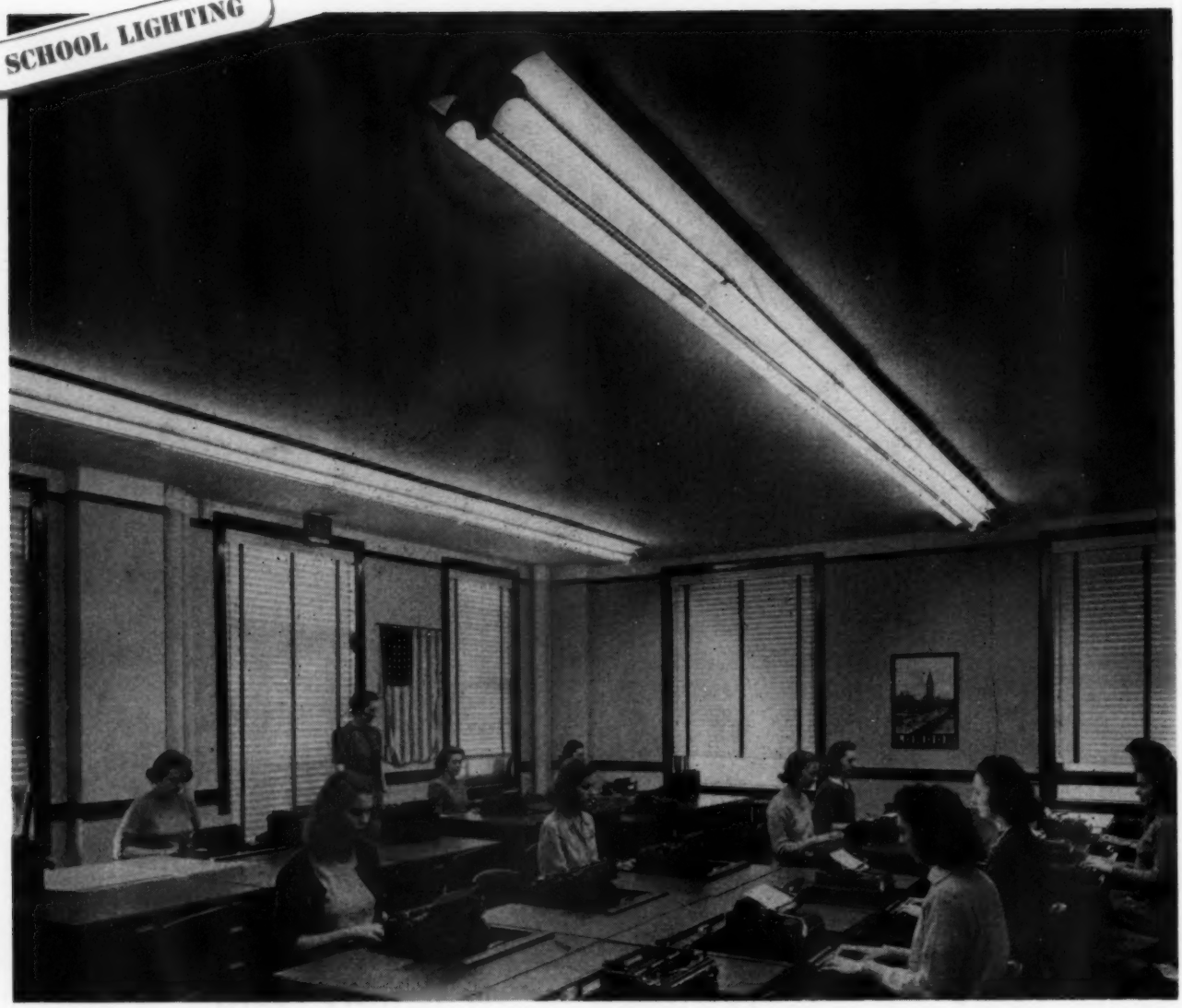


Fixtures by F. W. Wakefield Brass Co.

From These State Figures You Can Gauge the Volume Of Lighting-Sales Opportunities in Your Territory TODAY

STATE	High Schools 1939	Grade Schools 1939
Region I—New England	**1,123**	**12,546**
Maine	219	4,882
New Hampshire	119	1,768
Vermont	99	2,200
Massachusetts	499	2,307
Rhode Island	54	400
Connecticut	133	989
Region II—Middle Atlantic	**2,452**	**22,845**
New York	984	10,428
New Jersey	200	1,720
Pennsylvania	1,268	10,697
Region III—E. N. Central	**4,333**	**37,557**
Ohio	1,275	9,050
Indiana	889	3,024
Illinois	797	10,979
Michigan	875	7,304
Wisconsin	497	7,200
Region IV—W. N. Central	**4,659**	**52,879**
Minnesota	472	7,840
Iowa	1,142	9,800
Missouri	989	9,500
North Dakota	231	5,622
South Dakota	431	5,066
Nebraska	623	7,030
Kansas	771	8,021
Region V—South Atlantic	**3,494**	**35,177**
Delaware	51	235
Maryland District of Columbia	236	1,548
Virginia	514	6,685
West Virginia	422	5,260
North Carolina	946	7,097
South Carolina	315	4,590
Georgia	613	7,462
Florida	397	2,300
Region VI—E. S. Central	**2,355**	**24,483**
Kentucky	749	7,458
Tennessee	551	6,007
Alabama	474	6,431
Mississippi	581	4,587
Region VII—W. S. Central	**2,961**	**26,910**
Arkansas	660	5,000
Louisiana	434	3,649
Oklahoma	898	6,315
Texas	969	11,946
Region VIII—Mountain	**1,198**	**12,319**
Montana	260	3,531
Idaho	204	1,683
Wyoming	27	1,100
Colorado	266	3,194
New Mexico	166	1,400
Arizona	73	450
Utah	161	669
Nevada	41	292
Region IX—Pacific	**1,213**	**5,432**
Washington	338	2,320
Oregon	307	2,465
California	568	6,697
Total—United States	**23,788**	**230,198**

SCHOOL LIGHTING



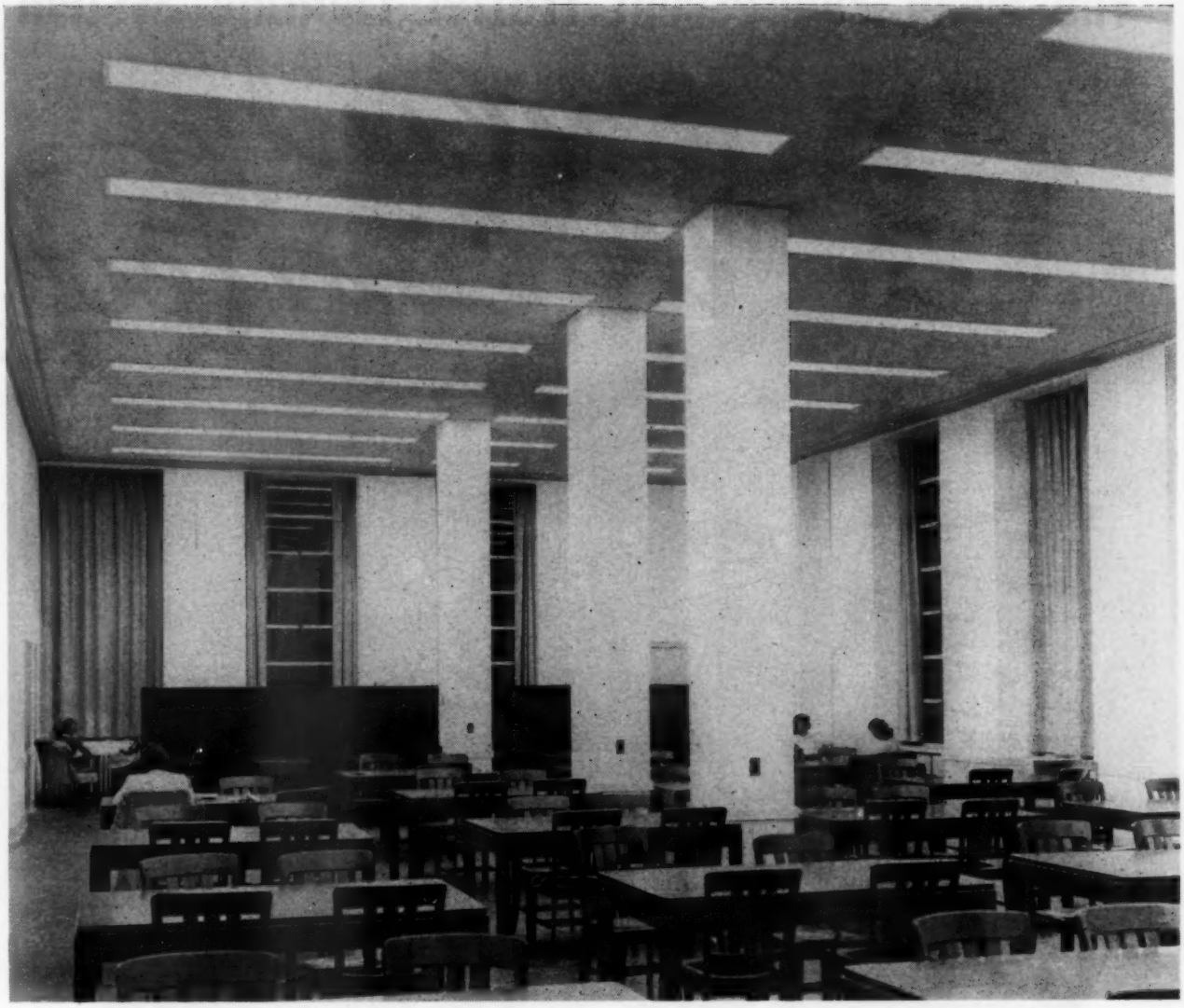
Not many schools, public or private, can boast of high-level lighting equal to that utilized in the secretarial school above, but the trend is definitely toward high-level lighting that aids the student. This 20- by 28-foot room is lighted by 10 fluorescent units, mounted end-to-end in two rows. Each unit has 4-40 watt lamps. Ceiling height is 10 feet. The average footcandle reading at the level of the typewriters is 45. Fixtures by Curtis Lighting.

This kindergarten room makes use of semi-indirect incandescent lighting to supplement the large quantity of daylight that enters the room. Fixtures by Wakefield Brass.

THE end of the war will mean back to school for many volume-minded wholesaler's salesmen. Not this time for the three "R's" but for quantity sales of school lighting equipment. Public schools, private schools, colleges—all are almost without exception in dire need of good overhead general lighting of classrooms. Most are prospects also for specialized lighting for auditoriums and study rooms, play and sport areas, laboratories. Bactericidal lamps too are finding a ready market as a means of cutting down disease transmission in school areas.

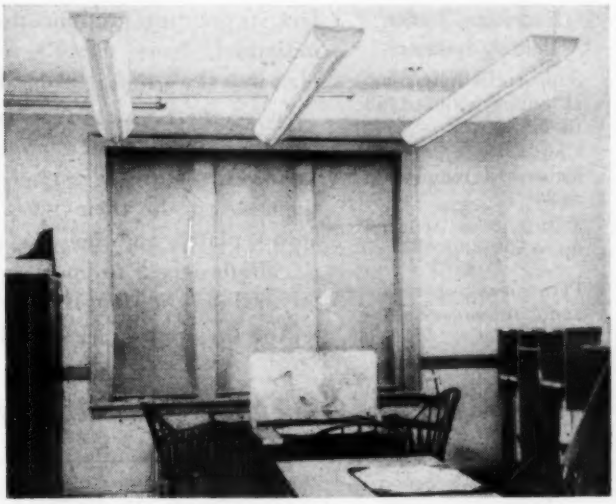
In most areas wholesaler's salesmen will find the school authorities not the politically-neglected, penny-pinching group prevalent in many cities before the war. Municipal coffers are full, private schools are enjoying a boom, colleges are already experiencing capacity enrollment. Schools now can afford good lighting—and 85 to 98 percent of them need it.

Wholesaler's salesmen who are on their toes are now laying the ground work for this market.



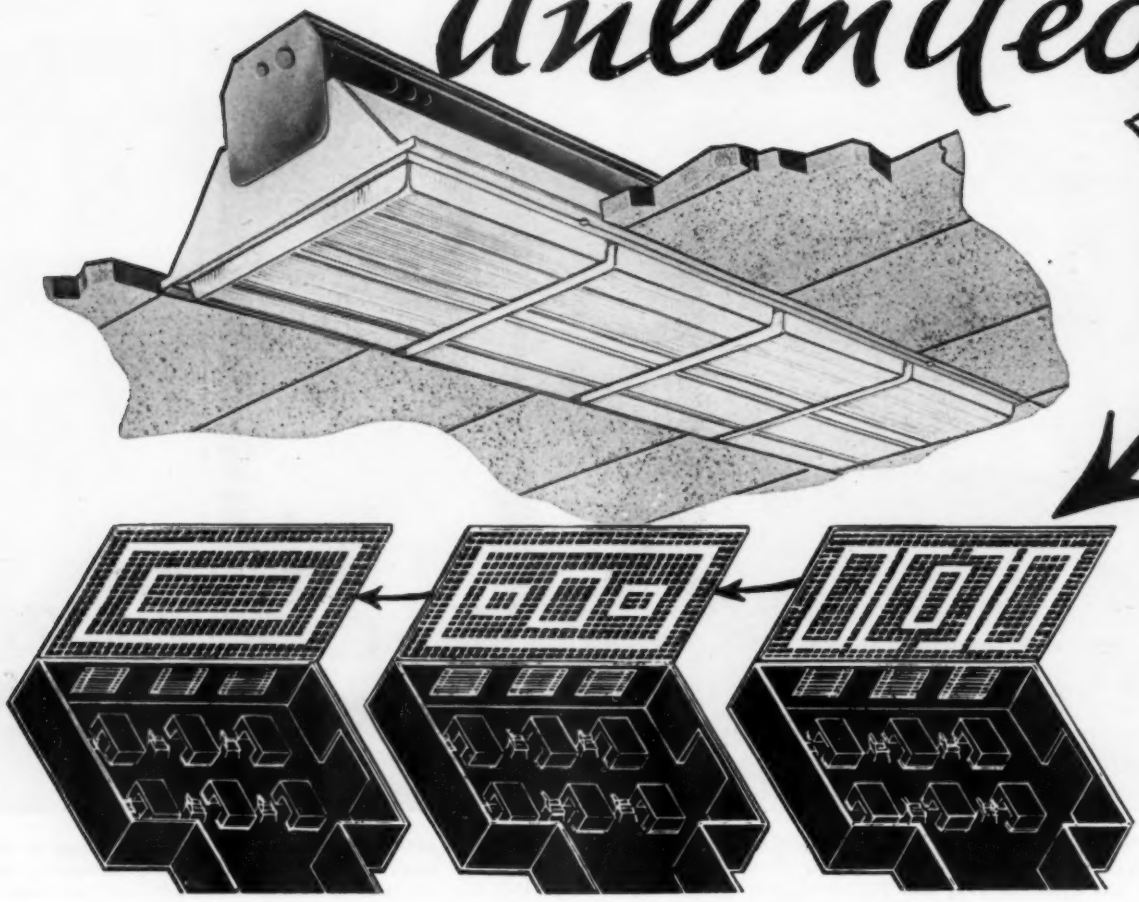
Beauty as well as high-level lighting has been given this study hall at Skidmore College, Saratoga Springs, N. Y. Rows of troffers, 6 feet apart, at 14½ foot ceiling height, provide 35 footcandles of illumination on the tables. A great majority of the 1359 colleges in the country need re-lighting to bring classrooms, study rooms, dormitories and libraries, up to present-day standards of illumination—and now they have the money to afford it. Fixtures by The Miller Company.

This Copley, Ohio, high school room has twelve 4-40 watt fixtures flush mounted on a 10½ foot ceiling, providing 30 footcandles on the desks, plus sufficient light for the blackboard writing. Fixtures by Curtis Lighting.



The re-lighting of all 608 study rooms at West Point called for three 4-40 watt fluorescent fixtures in each room, space on 3-foot 9-inch centers, to provide 45 footcandles of glareless light on the desks. Fixtures by Edwin F. Guth Company.

The Miller Fluorescent Troffer Lighting System gives you *Ceilings Unlimited*



Other Pluses of MILLER Fluorescent Troffer Lighting Systems:

Supports from structural ceiling reduced 50 to 75%. •
Conduit and conduit fitting costs reduced up to 80%. •
Wiring costs reduced up to 50%. •
Permanent operation and maintenance economies.

This lighting system is truly versatile. In fact, its practicable applications are almost unlimited. Note today's trend towards planning the *building* around the *lighting!*

In geometric patterns and lightstrips "by the mile," Miller Fluorescent Troffer Lighting Systems suggest new architectural themes. So do their glass and plastic lenses, plates, and metal or plastic grilles . . . all designed to meet specific architectural and lighting requirements.

And they're engineered to lick *structural* problems, too. One example of this is the patented Miller Bracket:

It does away with laborious fitting of recessed lighting systems in hung ceilings. One simply hangs the bracket from the *structural* ceiling—and both furred ceiling and Troffer Lighting System are hung *from the bracket!*

Miller field engineers are conveniently located. They will be glad to explain this and other Miller advantages—clearly and briefly.

THE MILLER COMPANY • MERIDEN, CONNECTICUT

LLUMINATING DIVISION
Fluorescent, Incandescent
Mercury Lighting Equipment

OIL GOODS DIVISION
Domestic Oil Burners
and Liquid Fuel Devices

ROLLING MILL DIVISION
Phosphor Bronze and Brass
in Sheets, Strips and Rolls

WAR CONTRACTS DIVISION
War Materiel

FOUNDRY DIVISION
Non-Ferrous Metal Castings

MILLER
SINCE 1844

Photo by Sylvania Electric Products, Inc.

From These State Figures You Can Gauge the Volume Of Lighting-Sales Opportunities in Your Territory TODAY

STATE	Dwelling Units 1940
Region I—New England	**2,201,647**
Maine	218,999
New Hampshire	133,010
Vermont	92,432
Massachusetts	1,120,524
Rhode Island	187,795
Connecticut	448,887
Region II—Middle Atlantic	**7,279,087**
New York	3,662,618
New Jersey	1,100,585
Pennsylvania	2,515,884
Region III—E. N. Central	**7,276,297**
Ohio	1,898,212
Indiana	961,500
Illinois	2,193,114
Michigan	1,396,206
Wisconsin	827,265
Region IV—W. N. Central	**3,689,070**
Minnesota	728,513
Iowa	701,920
Missouri	1,068,811
North Dakota	152,171
South Dakota	165,430
Nebraska	360,811
Kansas	511,414
Region V—South Atlantic	**4,279,740**
Delaware	70,572
Maryland	466,002
District of Columbia	173,709
Virginia	627,659
West Virginia	444,889
North Carolina	789,566
South Carolina	434,922
Georgia	752,286
Florida	520,135
Region VI—E. S. Central	**2,622,810**
Kentucky	698,604
Tennessee	715,425
Alabama	673,914
Mississippi	534,867
Region VII—W. S. Central	**3,377,534**
Arkansas	495,841
Louisiana	592,595
Oklahoma	610,424
Texas	1,678,674
Region VIII—Mountain	**1,120,694**
Montana	159,977
Idaho	141,765
Wyoming	69,357
Colorado	316,112
New Mexico	129,504
Arizona	131,189
Utah	139,496
Nevada	33,294
Region IX—Pacific	**3,014,746**
Washington	537,968
Oregon	337,731
California	2,139,047
Total—United States	**34,861,625**

HOME LIGHTING

Designed for dining and card playing, this corner of the living room has a ceiling fixture lighting the table, and in the corner fluorescent tube covered with a parchment shade and small shelves for decoration.

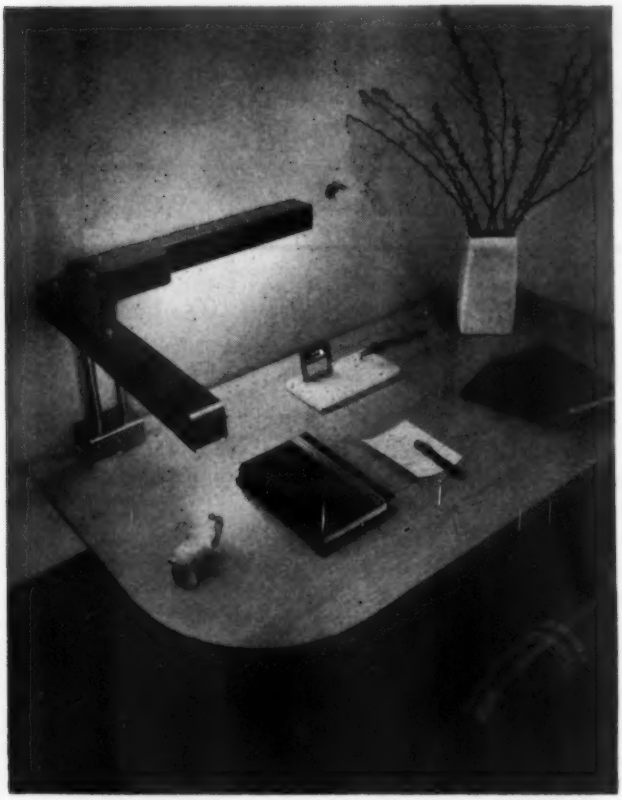
SO MANY factors are involved in picturing the tremendous market for residential fixtures which is opening with the return of private home building, that reference to this wide market within the limits of this section necessarily must be incomplete.

The building of new homes, at a rate estimated at well above one billion dollars a year, is one of the country's first peace-time objectives. The demand this will represent for residential fixtures will surpass by a wide margin that of any previous period.

Any experienced wholesaler's salesman knows that, regardless of the demand, there will be still a need for effective selling of residential fixtures. The electrical contractor still will need the aid and advice of salesmen who know the requirements of good home lighting installations, and as in pre-war years, these contractors are going to lean heavily on those salesmen who are able to provide the most assistance in planning and selling home lighting.

There will be still a need for good selling to see that these many new homes are provided with sufficient sources of light, well-placed, for pleasant and eye-saving living. New markets, too, will open up to test the salesman's ability. Decorative lighting has a place in the home of the future. And so does fluorescent lighting, which is pictured on these pages as designed by one manufacturer in typical home settings.

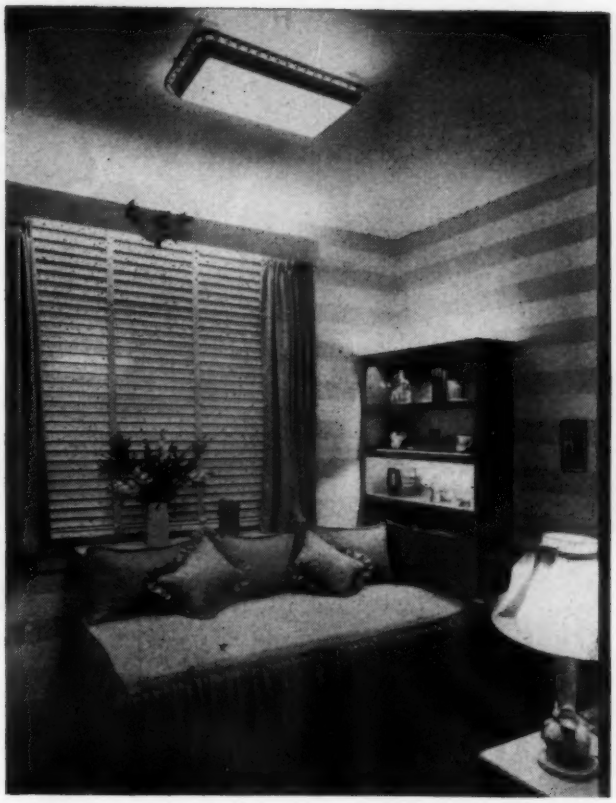
The editor regrets that no manufacturers of home lighting equipment were ready, able or willing to supply photographs of home lighting fixtures for publication in this issue.



A versatile fluorescent desk lamp adds charm and utility to this home writing desk. Each arm swivels in a 90-degree turn, allowing it to be placed wherever light is needed, or pushed back flush to wall.

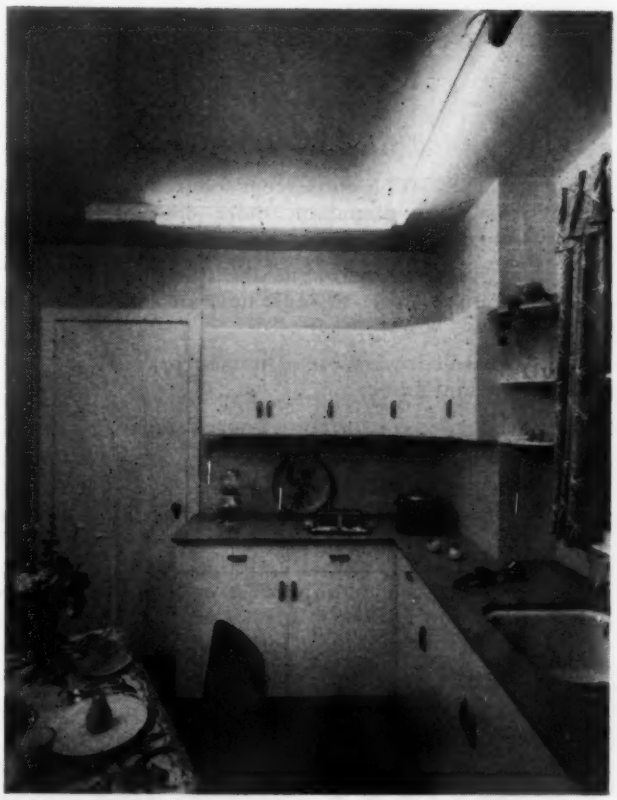
This study-type office illustrates the adaptation of fluorescent lighting to small areas in the home. The louvred central fixture carries out the lines of the table and provides both general lighting for room, direct lighting for table.

Fluorescent for home lighting made its start in pre-war kitchens. Peacetime will see advent of a greater variety of fixtures that will blend into the design of the room as do the examples in this demonstration kitchen.



Studio-bedroom has fluorescent lighting designed for decorative atmosphere as well as to provide light for reading, sewing or studying. Lamps are concealed behind window valance, above and within the book case.

Although many fluorescent fixtures were sold for use in bathrooms pre-war, new designs can be expected. Raceway connects the two mirror lamps with the old outlet box located just above the mirror.



Cool, practically shadowless light for this kitchen work area comes from the unusual arrangement of fluorescent lamps on ceiling. All photos by F. S. Lincoln at the Lighting Center of Sylvania Electric Products, Inc.

Industrial Sales and Service are Easier with MITCHELL LIGHTING

HERE'S WHY!

1. MITCHELL fluorescent fixtures assure more abundant, more efficient light for industrial workers.

2. Greater mounting flexibility simplifies installation of single units or continuous rows.

3. Easier, lower-cost maintenance saves time and money.

4. Rugged construction assures longer, more dependable service.

5. Complete MITCHELL line provides a ready answer for every industrial lighting need. 2-40, 3-40 and 2-100 watt models, in open-end and closed-end types, including "Instant Start." RLM and FLEUR-O-LIER Certified.

Industrial users are quick to discover these benefits. As a result, you have the edge on competition . . . make sales easier . . . build volume business.

Alert Distributors and Contractors in every part of the nation are planning tomorrow's profits . . . *with MITCHELL.*

Makers of Industrial and Commercial Fluorescent Lighting Equipment
Store Window Lighting
Spotlights and Floodlights • Desk Lamps
Portable Floor and Table Lamps
Bed Lamps
Ultraviolet and Infrared Health Lamps
Residential Lighting Specialties

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USE THESE SALES AIDS!

Write for full-size Catalog No. 281 and Pocket-size Catalog No. 290. Each tells full story of Industrial units . . . creates business for you.

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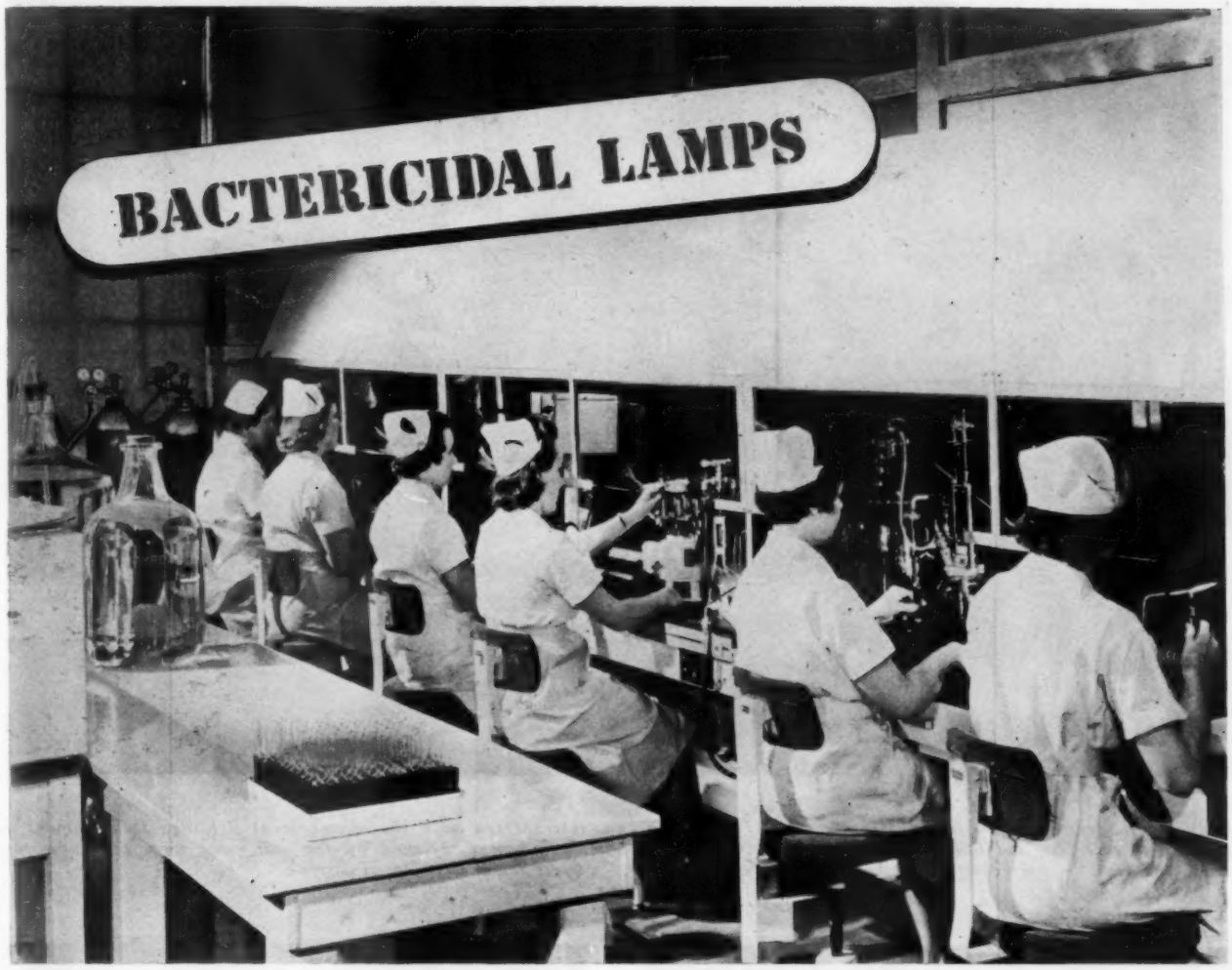
West Coast Factory and Sales Office: 1019 N. Madison Ave., Los Angeles 27, Cal.

BACTERICIDAL LAMPS



BACTERICIDAL LAMPS have proven value, but potential sales possibilities are still to be explored. Farms, industry, homes, hotels, offices, stores—all can make use of the germ killing lamps. Wholesalers' salesmen have profitable market awaiting them

ONE OF the several practically virgin markets for wholesalers' salesmen is the field for bactericidal lamps. Yet pre-war and war-time sales of these germ-killing lamps were sufficient to indicate to any alert salesman that profit-making opportunities await him if he will learn the properties and the uses of these lamps and put serious effort behind the seeking of new as well as established markets.

Lamps Are in Use Now

Bactericidal lamps are already at work sterilizing the air in hospital operating rooms, obstetrical rooms, laboratories and kitchens. They have proven effective in cutting down the epidemic rate of children's diseases, as well as of colds and influenza, in schoolrooms and play areas. Many dairies are using bactericidal lamps for complete sterilization of all phases of bottling operations.

New Markets Waiting

Meat-packing plants and butchers have found that the action of these lamps retards the formation of mold on meat. Even before the war, certain hotels were using portable bactericidal lamps for sterilizing the quarters offered guests, and proudly advertised this fact to the public.

These are but a few of the fields where bactericidal lamps have been sold. And they are but a small percentage of the market that will open now that wholesalers' salesmen, with the help of the several manufacturers, can explore confidently the full sales potentials of these lamps.

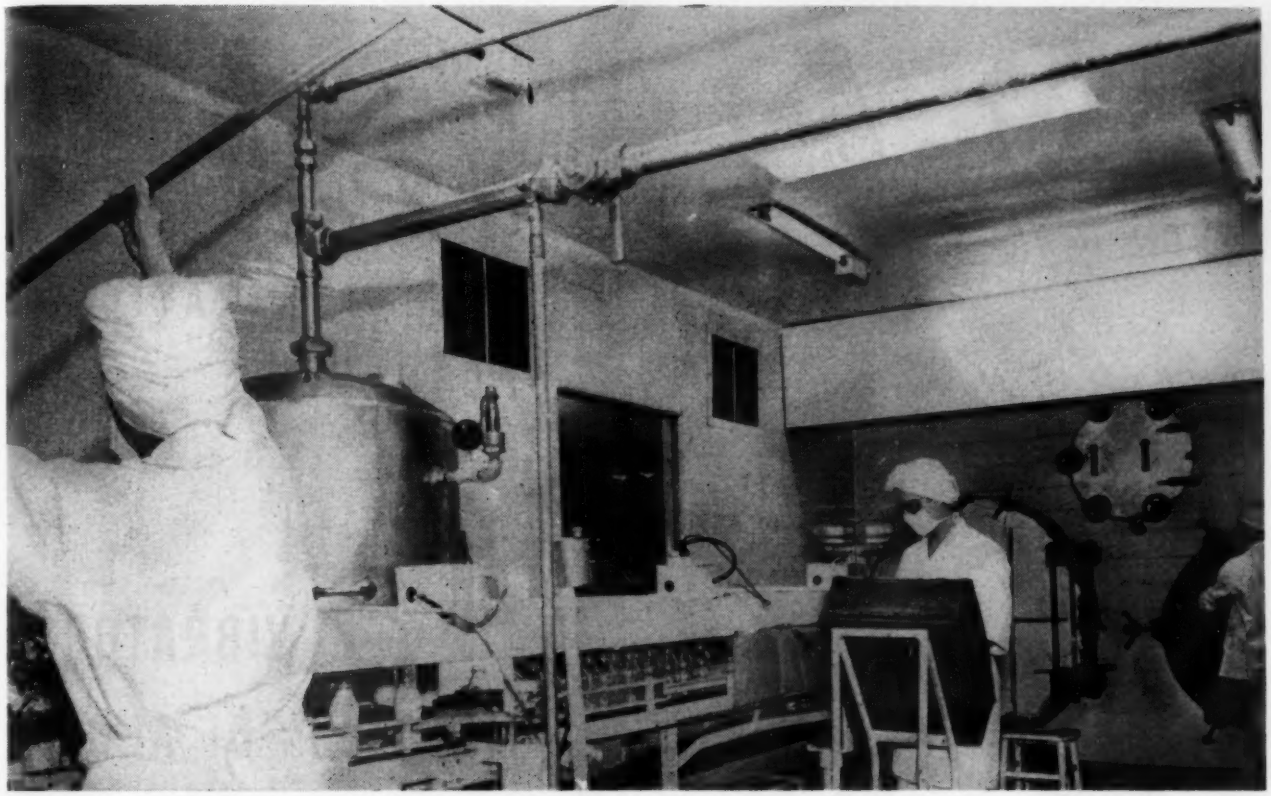
It is not a market that lends itself to hap-hazard selling. Wholesalers' salesmen need to know the peculiar characteristics of bactericidal lamps, their potentialities as well as limitations, in order to make sales that will prove valuable to the customer and provide the groundwork for more sales and more profits.

BACTERICIDAL LAMPS

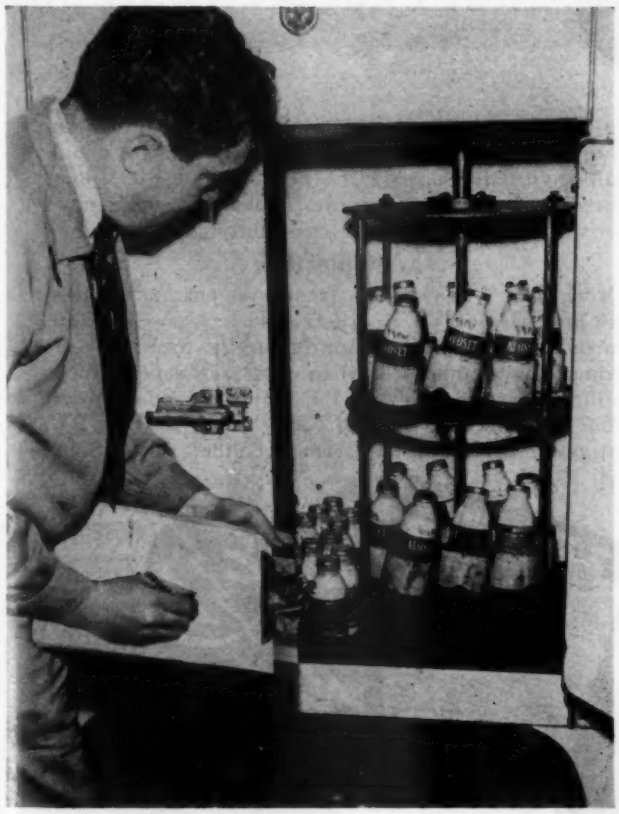
Reducing the germs in business offices can help greatly to prevent absenteeism and low efficiency. In this New York office, the lamps (resembling fluorescent fixtures above) are interspersed with the incandescent lighting. Development of these lamps, delayed by the war, will now get underway. Bactericidal units by Hanovia.

High mortality of baby chicks in brooder rooms can be cut sharply by use of bactericidal lamps to sterilize the air and the litter. Photo by "Dick" Whittington.

Over the door of this office, a bactericidal lamp stands guard against germs. The lamp, a pre-war model, is one yard long, rated at 30-watts. Lamp and fixture by General Electric.



The protection usually found in a hospital surgery room is provided in this California bottling plant. Air for the room has been cleaned by an electronic filter, and six bactericidal lamps keep it germ-proof. Three other bactericidal-killing lamps are installed over the conveyor, and eight others guard the bottling machines. Photo by Westinghouse.



New Method for preparing heavy cream makes it stay fresh at room temperatures for more than a year. Involved in the complicated process is the use of a bactericidal lamp.

All workers in the bottling plant must pass through this door where a bactericidal lamp kills all bacteria that might upset the careful sterilization process. Westinghouse photos.

AT LAST *a Real* STANDARDIZATION PLAN!

4 E-L VIBRATORS MEET 95% OF ALL AUTO-RADIO REPLACEMENT NEEDS

Think what this means! Only *4* models to stock for serving the 1122 auto-radio models which comprise 95% of the market. It means lower stock investment, faster turnover, no more dead wood in your inventory! It *guarantees* greater profits for distributors and dealers. E-L streamlined standardization is the result of an extensive, careful analysis of auto-radio vibrator requirements.

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The design and every exclusive feature of these outstanding vibrators has been thoroughly proven in the most rugged wartime service. E-L has developed and perfected a vibrator of the balanced resonance type with 8 contacts instead of 4—twice as many as other vibrators of this type. This means 33% longer vibrator life, with output voltage and starting voltage requirements maintained virtually constant at all times. Thus, E-L Vibrators not only assure longer life, but maintain the characteristics necessary for satisfactory auto-radio operation.

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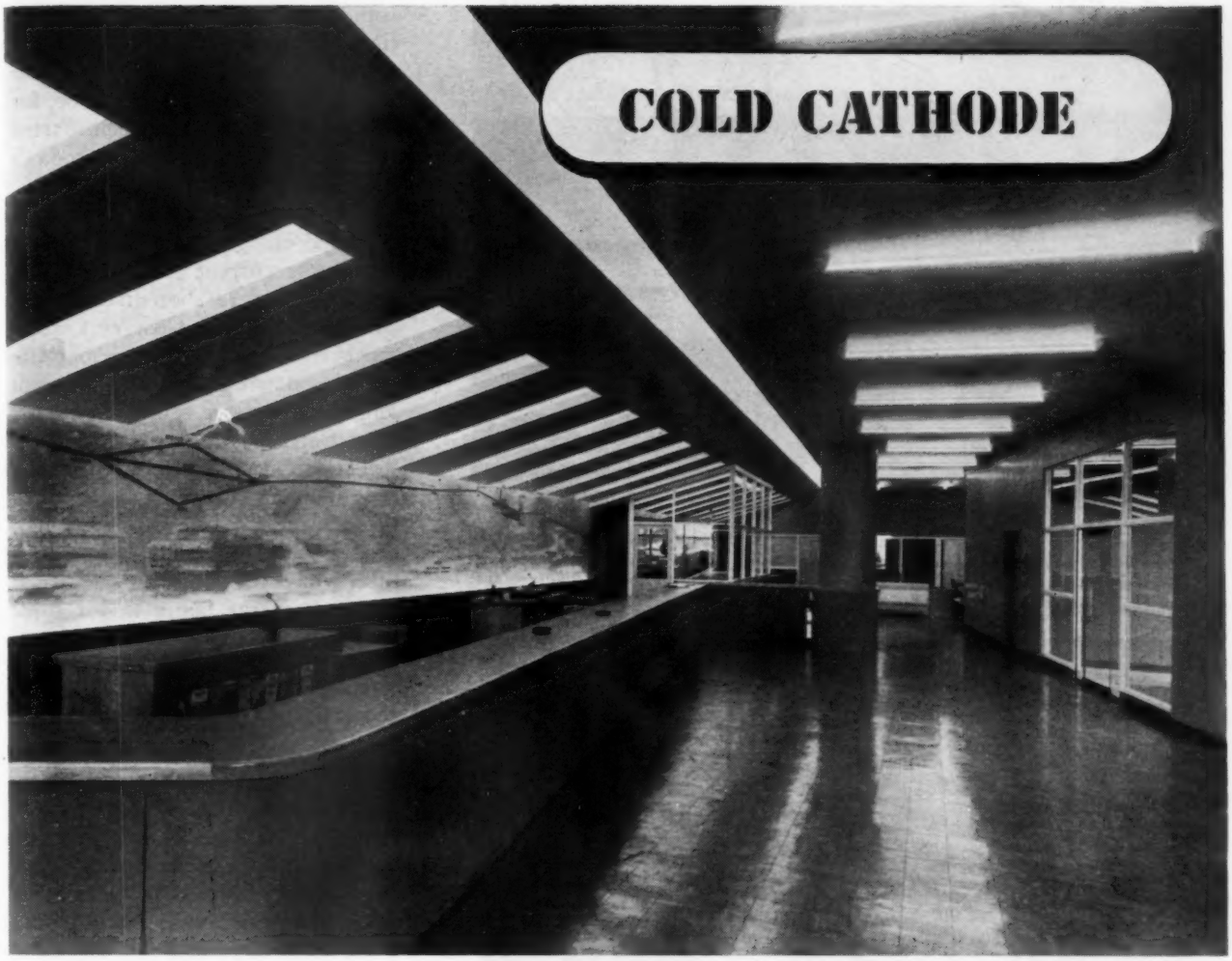


Cold Cathode equipment by General Luminescent Corp.

COLD CATHODE.... Its Past, Present and Future

By John C. Sabatini*

UNTIL the dawn of V-J Day, cold cathode fluorescent lighting meant little to the salesmen of lighting equipment, except the need to answer an ever growing list of questions about it—can it do this?—will it do that?—can it do all they claim it will?—etc.

We are here, not interested in whether it may prove to be the cure-all of all lighting ills. Only time and man's genuis can answer that. It is certainly a lighting tool forged in custom lighting in pre-war days, and hardened in war plant packaged-lighting units. This war-time experience was gained under trying conditions.

What these conditions were or how they were surmounted is also of no consequence now. Enough that they have proven the metal of this newest member of the lighting fraternity. Cold cathode fluorescent lighting has grown slowly, but will grow now that restrictions and war-time demands no longer can keep engineers from exploring it fully.

It was only when our armed forces showed that they had the European situation in hand, that several of the transformer companies could venture into the development and manufacture of a small compact transformer that would operate two lamps in multiple, as well as series units powering from four to fourteen lamps.

This progressive step has opened the door to production in large quantities. It was the advance signal to lighting fixture manufacturers to

COLD CATHODE

An example of office lighting using standard 8-foot cold cathode fluorescent tubes in flush-mounted glass fixtures, the type of packaged unit cold-cathode considered suitable for volume sales through regular electrical wholesalers and their salesmen. Equipment by Colonial Neon.

A war-time installation of cold-cathode fluorescent in the plant of the ITE Circuit Breaker Company. More than 40,000 feet of tube was used in the complete installation, using the ceiling as reflector at a time when materials were scarce. The primary voltage was adjusted to 230 volts to utilize the existing circuit. Equipment by Colonial Neon Co.

★

PREVIOUS PAGE. The title picture shows an effective use of combining custom-made cold cathode fluorescent tubes recessed in ceiling, with standard exposed tubes at the Northwest Airlines ticket office in Chicago. All lamps are operated from 750-volt low-voltage cold cathode ballasts. No voltage loss was experienced in runs up to 85 feet. Equipment by General Luminescent Corp.

be on the lookout for new competitors, or get on the band-wagon themselves. How many will do so remains to be seen.

In any event no longer can anyone classify cold cathode fluorescent lighting as a neon sign man's plaything. Thanks to the farsighted members of the luminous tube industry, the lighting wholesaler now will have his own post-war miracle to offer.

To fully understand this miracle, let us look at it in retrospect. It is not as new as many believe. We can peg its birth to a day in 1898, when Sir Ramsey, an English scientist, discovered a new rare gas and named it Neon, after the Greek word "Neo," meaning new. We could have gone further back in time, to the discoveries of other scientists, but starting with Sir Ramsey is the way it should be, for it was his neon tube which started the chain of events leading to today's fluorescent lamps.

Neon gas isolated in a vacuum tube and charged with high voltage alternating current glows red. First neon tubes were short-lived. They continued so until Georges Claude, the Frenchman, gave them long-life with his new electrodes. It was not long before neon tubes were used for advertising signs.

The decided success of neon, or red luminous tubes, brought forth the demand for other colors, blues, greens, white and gold. The Geissler tube, which was a mercury-activated argon discharge lamp, was a forerunner of the blue tubes we know today. Same combination of gases in noviol, or canary-colored glass, make green. White was obtained by using helium in clear tubing, the same gas used to inflate dirigibles. Gold by using helium in yellow-colored glass tubing. This first white was purely a commercial color, not suitable for lighting purposes, because it was rich in violet and gave one a ghostly pallor.

Cold cathode lighting progressed faster in Europe than in the United States, especially when with the discovery of green fluorescent phosphors, similar to those used in television screens, tubes were made having their inside walls coated with this phosphor. An enterprising manufacturer found that by placing a 10mm. diameter neon (red) tube directly below a much larger millimeter sized green fluorescent tube, the color obtained on the working plane was a rich white.

It was not long before many leading retail shops in England, France, Germany, and Italy were being illuminated by long lines of cold cathode tubes in combination with cold cathode fluorescent tubes. The only distinction between the two is that the inside wall of the latter is coated with phosphors, while the other is not. All this was happening about the time Hitler was in jail, thinking up his "Mein Kampf."

Though the first neon sign used in the United States came from France and was erected on the west

coast, it was not long before we started making them. That the industry has grown is self-evident. New York's Great White Way has given way to Rainbow Row and there is hardly a city that does not have its small edition of Rainbow Row, nor a highway that is not studded with neon signs.

That cold cathode tubes would be used extensively for decorative and ornamental purposes was to be anticipated. Especially when the user found he could expect extremely long life. For example, an installation of about 2400 feet of different colored, cold cathode cool luminous tubes was made in Loew's Jersey City (N. J.) theater to replace incandescent lamps. Now, after about eight years of continuous operation of about thirteen hours daily, the management is replacing only the blue tubes used in the coves underneath the first balcony to furnish the low intensity of light needed during the showing of motion pictures.

The post-war theater will undoubtedly be a large user of cold cathode tubes, not only because of low maintenance, lighter air-conditioning load, but also because of the development of a dimmer, which will dim a cold cathode tube as well as fluorescent to 1/10th of its intensity. (Such a dimmer is now being used in the public reception rooms of the new Hotel Statler, in Washington, D. C.)

Another milestone in the development of cold cathode lighting was reached in equipping the Koss Restaurant. Here were used three rows of tubes, red, blue, and green, in coves, to provide the desired lighting effect.

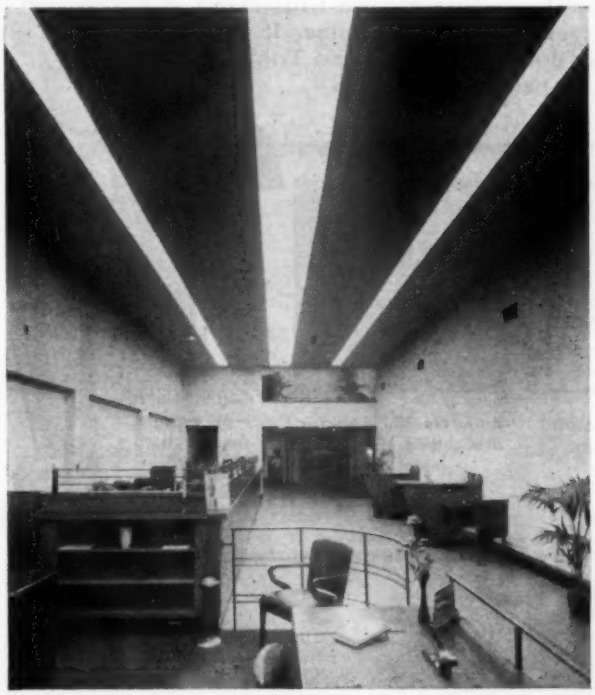
The development of phosphors which when activated by the ultraviolet radiation of the mercury vapor inside the lamp gave off a white light, started their use in stores and pioneering installations included the Broadway Hosiery Shops, most of which are thus illuminated.

The first installation made for that concern at its Paterson, N. J., store had four lamp exposed recessed fixtures powered by series-type high voltage 60 M.A. transformers (see photograph). Just recently their main hosiery store also was equipped, this one with the newest type four lamp cold cathode fluorescent fixtures**, which are Underwriters' approved, and use two 900 volt transformers of 120 M.A. capacity to power the four lamps. Should a lamp fail for any reason, it does not affect the others.

John C. Sabatini

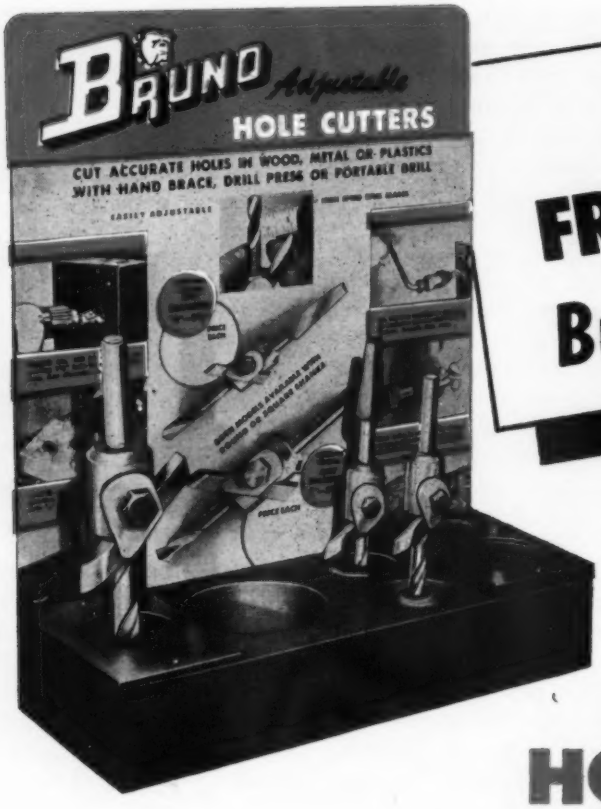
Those first pre-war jobs were all custom installations, each engineered and designed to suit the individual need. The introduction by the two World Fairs of the hot cathode fluorescent lamp was not without effect on its counterpart, only in a small way, to be sure, but in a way that was penetrating and convincing. It gave impetus to its use, for there is always a pioneer ready to try something different.

Soon after the entrance of the United States into the war, the I. T. E. Circuit Breaker Company of Philadelphia unshackled cold cath-



Effective use of recessed cold cathode fluorescent tubes in the ceiling of the First National Bank, Union City, N. J. Equipment by the Colonial Neon Co.

Open-type cold cathode fluorescent lighting in a hosiery store. Each 4-lamp fixture has a series type 60 M A transformer. Equipment by the Colonial Neon Co.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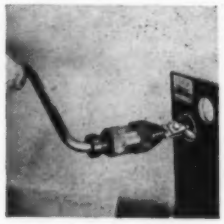
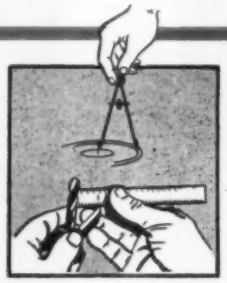
Bruno Hole Cutters are designed by tool engineers for use in portable drills, hand braces and drill presses in the shop or on the job.

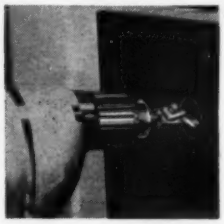
Counter display FREE with minimum order. Strong campaign of colorful national advertising and illustrated packages build sales volume. If your jobber does not stock Bruno Tools, send his name to Dept. WS-9.



Bruno No. 100-B in hand brace cutting plastic laminate.



Just like a compass, it's easy to set for any diameter



Bruno No. 100 in electric drill cutting 1½" hole in metal box

BRUNO No. 101
—⅜" straight shank, cuts: 1" to 2½"

BRUNO No. 101-B
–Square bit stock, cuts: 1" to 2½"

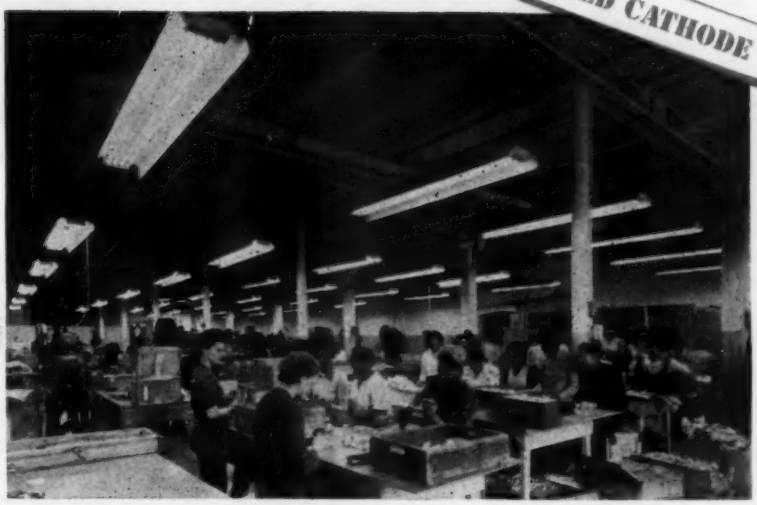
BRUNO No. 100-B
–Square bit stock, cuts: ⅜" to 1½".

BRUNO TOOLS

BRUNO No. 100—
¼"straight shank, cuts: ⅜" to 1½".

9330 Santa Monica Blvd. Beverly Hills, California

ode fluorescent lighting once and for all from the chains that held it tied to the field of ornamental lighting, by illuminating 160,000 square feet of work-area by the use of 40,000 feet of cold cathode fluorescent lamps. Admittedly no other light source could have been used to do this job with the least use of critical materials. The ceilings were used as reflecting surfaces by mounting the lamps directly thereon (see photograph). The primary voltage of the transformers was stepped up to 230 volts to make use of existing wiring circuits imbedded in the concrete construction. Following the same pattern, the General Cable Company has a number of its cable winding machines illuminated by 2 lamp cold cathode fluorescent fixtures, powered by transformers having 440 volt primary ratings.



Cold cathode fluorescent lamps in industrial type fixtures provide 35 foot-candles of illumination in this Chicago factory. Each 4-lamp fixture has 2-750 volt cold cathode ballasts. Equipment by General Luminescent Corp.

The I. T. E. installation led to a 30,000 foot installation in the Crown Can Company's Philadelphia plant. Then in rapid succession came a number of other large installations in the Philadelphia area, highlighted by a higher than 100 foot candle (on working plane) installation in the Fingerprint Division Offices of the U. S. Marine Corps. There the area illuminated covered approximately 3200 square feet. Non-ferrous reflectors were used with transverse louvers.

These have all been series lighting. Growing demand finally convinced one transformer company to produce a 2 lamp 900 volt multiple type transformer. At long last the opportunity was at hand to make individually powered 2 and 4 lamp fixtures. The first major installation wherein these fixtures were used was the new Wright Aeronautical Corp. wind test tunnel buildings, in Woodridge, New Jersey.

With such a background, cold cathode cannot be denied its just place in the lighting art. To make certain that its place will be secure, the Fluorescent Lighting Association, comprising manufacturers of accessories, transformers, lamps, coatings, fixtures, etc., now has been actively at work since Jan. 1942, and among other things has established industry standards to insure acceptance by the users.

Those intimately acquainted with cold cathode fluorescent lighting predict that it will be one of the miracles of this coming age. It can be bent, twisted, made in custom shapes, or in straight lengths; can be had in high or low intensities; can be dimmed easily; will operate in all temperatures, best to be certain in the range of 65° to 80°; has no moving parts; has long life and low maintenance; and, finally, is available in a galaxy of colors, any shade or tint.

The revocation of war-time restrictions now has opened the door to a tremendous boon in its manufacture and sale. Enterprising producers, sensing the necessity of wholesale distribution, are not asleep at the switch. They will make use of this nation-wide channel of distribution. The wholesalers' salesmen owe it to their customers and themselves to become better acquainted with cold cathode.

To the wholesaler falls the lot of selling and handling standard length lamps, standard type fixtures, whether they be glass-enclosed, recessed, industrial, commercial, and unit packages of lamps complete with accessories for mounting bare on ceilings. The sizes need not be limited to 8 foot fixtures. A popular size will be the 6 foot units soon to appear.

The sign, or, to call him properly, the luminous tube, manufacturer will have to relegate himself to the manufacture and direct sale of custom and decorative lighting. In this he will be successful only if he thinks and breathes as a lighting-conscious man should. It will be the function of the major lamp companies, in recognition of public demand, to add standard sized cold cathode fluorescent lamps to their lines.

Experiences in England have proven it economically inexpedient for wholesalers to become involved in the sale of custom lighting, except possibly as initial brokers between the user and the producer. If he attempts to stock up on custom sizes to serve his customers well, he will bog down his warehouse with equipment that may long wait to be used. The luminous tube manufacturer has had the experience necessary to maintain a custom business, for it has always been so with him.

It should not be assumed for a moment that it has all been easy sailing. The cold cathode industry has had to put up with war-time difficulties and headaches. It has had its growing pains just like any other industry. Its body is fast becoming strong, and with increasing strength comes solidity of purpose—to provide the most flexible and versatile lighting tool ever discovered, to serve well its master, the public, to whom it now belongs.

**The Colonial Woodworth, Patent No. D-142126

**Director, Colonial Lighting Division, Colonial Neon Co., Inc.*

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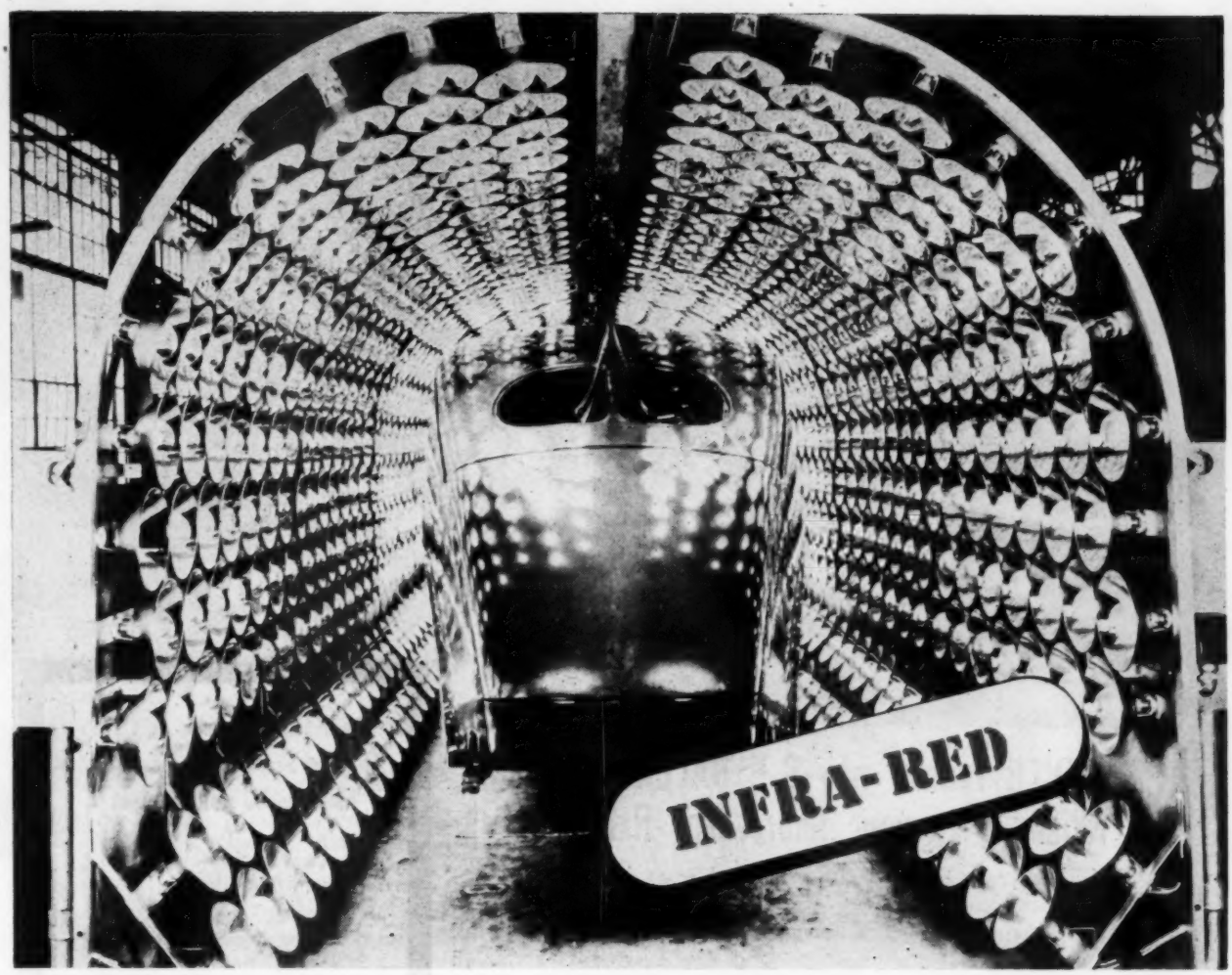


Fixtures by North American Electric Lamp Co.

INFRA-RED offers the wholesaler's salesman an expanding market as new industrial, commercial and home applications are developed

VERY FEW electrical products received a sales stimulus during the war years equal to that enjoyed by infra-red lamps. With their application to industrial processes relatively new back in 1939-'40, these lamps have proven so highly efficient in such a wide variety of applications that their peace-time sales potentials loom large for any alert wholesaler's salesman.

The infra-red ovens of many sizes and shapes, developed to speed the drying of thousands of war products are a familiar sight in industry today. Drying paint and other substances in minutes instead of hours, and much better than by the older methods, served to speed up war production on many fronts—and it will be of equal value in peacetime. The manufacturer who expects to meet competition no longer can afford the slower, more costly, and less satisfactory methods of drying.

Practically every warplant application of infra-red heat has a peacetime use, and many are but the forerunner of yet undeveloped uses that will make the industrial field a constantly increasing market for the wholesaler's salesman.

In the home and in the service industries, the heat-producing lamp has many applications only recently explored, has potentials yet to be tried. For instance, experiments in the home have found the infra-red lamp valuable in the drying of hair and fingernail polish. It has proven its worth as a spot heater for chilly days and for cold parts of the home.

Even before the war, garages were using small banks of infra-red lamps to speed the drying of paint on auto bodies. Transportation companies put the lamps to use for preheating the engines of buses on cold mornings. Many other uses were just in the trial stage when the needs of war production took the full output of these lamps.

To the wholesaler's salesman who makes himself familiar with the qualities and applications of infra-red, a wide and profitable market is waiting to be sold. Not only is the initial installation profitable, but also it provides the basis for repeat sales of replacement lamps, plus the various types of wiring materials that are needed to facilitate the proper use of infra-red equipment.

ANOTHER reason why G-E BALLASTS add reliability to your fluorescent fixtures

THESE ballast coils—picked at random from a production run—are identical. This is not a matter of chance.

These coils are automatically wound by a machine that predetermines the number of copper-wire turns for every coil layer, that spaces these turns exactly, and feeds in layer insulation at just the right instant. Constant tension is maintained on the coil wire as it feeds on to the specially constructed winding spool so that every finished coil is exact in size, smooth, compact, and evenly rectangular. No rounded sides, no "springy" layers.

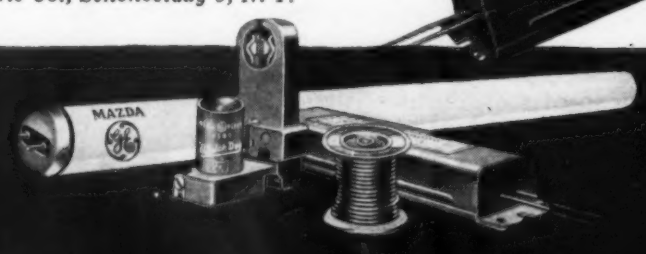
Long lamp life; rated light output. This uniformity of coil design is one important reason why every G-E ballast has electrical characteristics perfectly matched with the lamp it is to operate—a "must" to assure long lamp life and rated light output.

Improved ballast life. Matched characteristics contribute, also, to uniformly long ballast life—prevent early burnouts. It is features like this that are responsible for the fact that more than one billion watts of fluorescent lighting are being satisfactorily operated today with G-E ballasts. More than 150 lighting equipment manufacturers rely on G.E. for all or part of their ballast requirements.

For complete data on G-E ballasts, ask for GEA-3293F. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

These ballast features help keep fixture users satisfied—they mean added profits for you

1. Low noise level—for satisfied users
2. Long life—for low replacement cost
3. Characteristics matched with lamp—for rated lamp life and light output
4. Dimensions that permit use of one wiring channel for practically all fixtures—for simplified parts inventory and lower fixture cost



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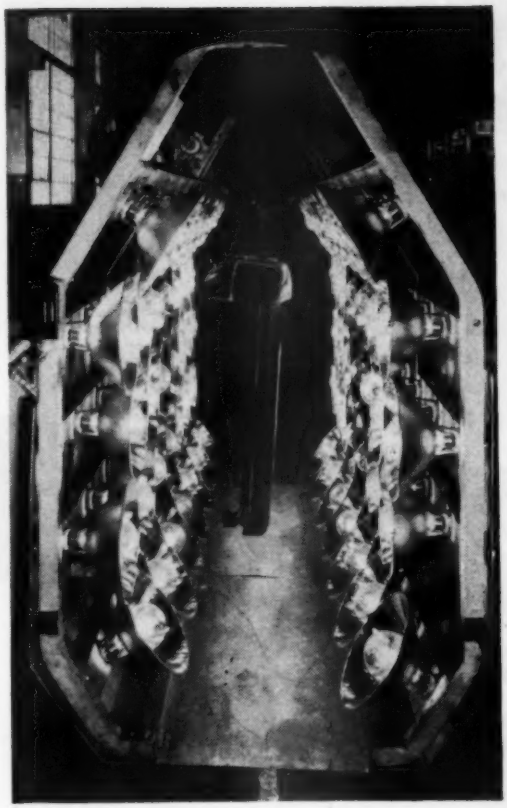
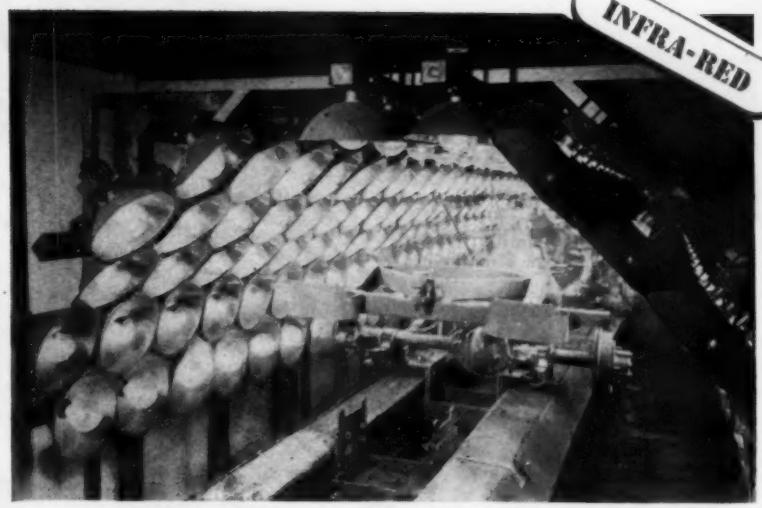
Buy all the BONDS you can and keep all you buy

INFRA-RED



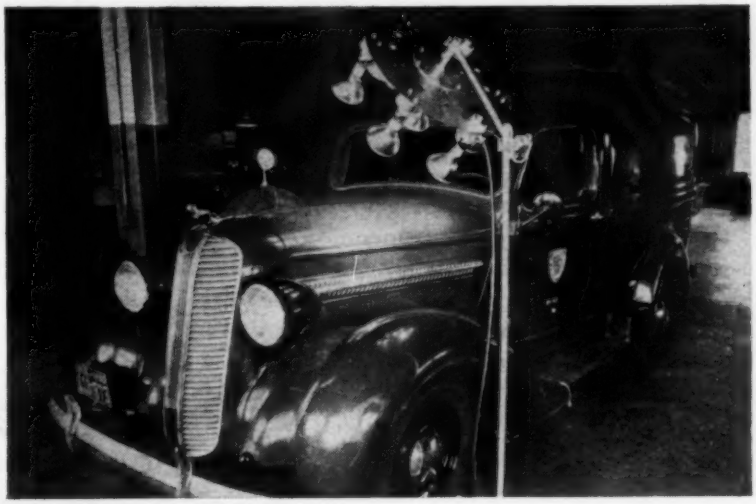
Although the use of infra-red received impetus during the war, most peace-time uses are still to be expanded. Many small units will appear. Installation by North American Electric Lamp.



Large installations of infra-red lamps will be in demand in peace-time industry to speed processing, and to save time and money in a competitive market. The above war-time oven is drying paint on a jeep chassis. Installation by Fostoria.

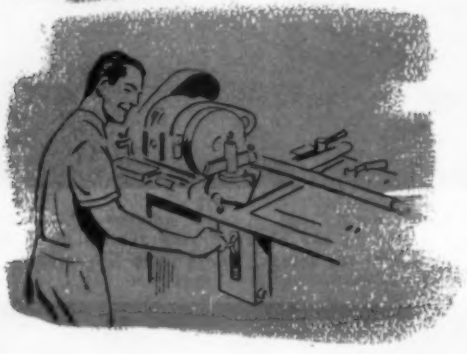
Infra-red installations provide a market for a large amount of wiring devices as well as the lamp units. In the above drying system rows of wireway are used to supply current to the lamps. Photo from Wiremold.

Infra-red has many uses for the home-quick-drying of hair, fingernail polish, paint and others to be tried. This will provide retail sales for the lamps. Westinghouse photo.



Many uses will be found for portable infra-red heat lamps. This pre-war unit is in use drying paint in the repair shop of a garage. It is moved easily to any part of the shop on the steel frame dolly. General Electric photo.

Here's a Switch that Workers Like



Shutlbrak

ENCLOSED SWITCH

In capacities to fit *every* job from 30 to 1200 amperes, for 250 volts AC or DC, and 575 volts AC, in 2, 3, and 4 poles. For detailed specifications and prices, write for our 20-page Bulletin No. 70.

THERE'S something about (FA) Shutlbrak Enclosed Switches that workers who use them like. Some tell us it's the easy-to-spot red plastic handle and the feeling of safety it has. Others say it's the split second speed of operation — even with a slow pull on the handle — that they like. Plant engineers tells us that they're *trouble-free* and sturdy, and that's the highest compliment we strive to merit.

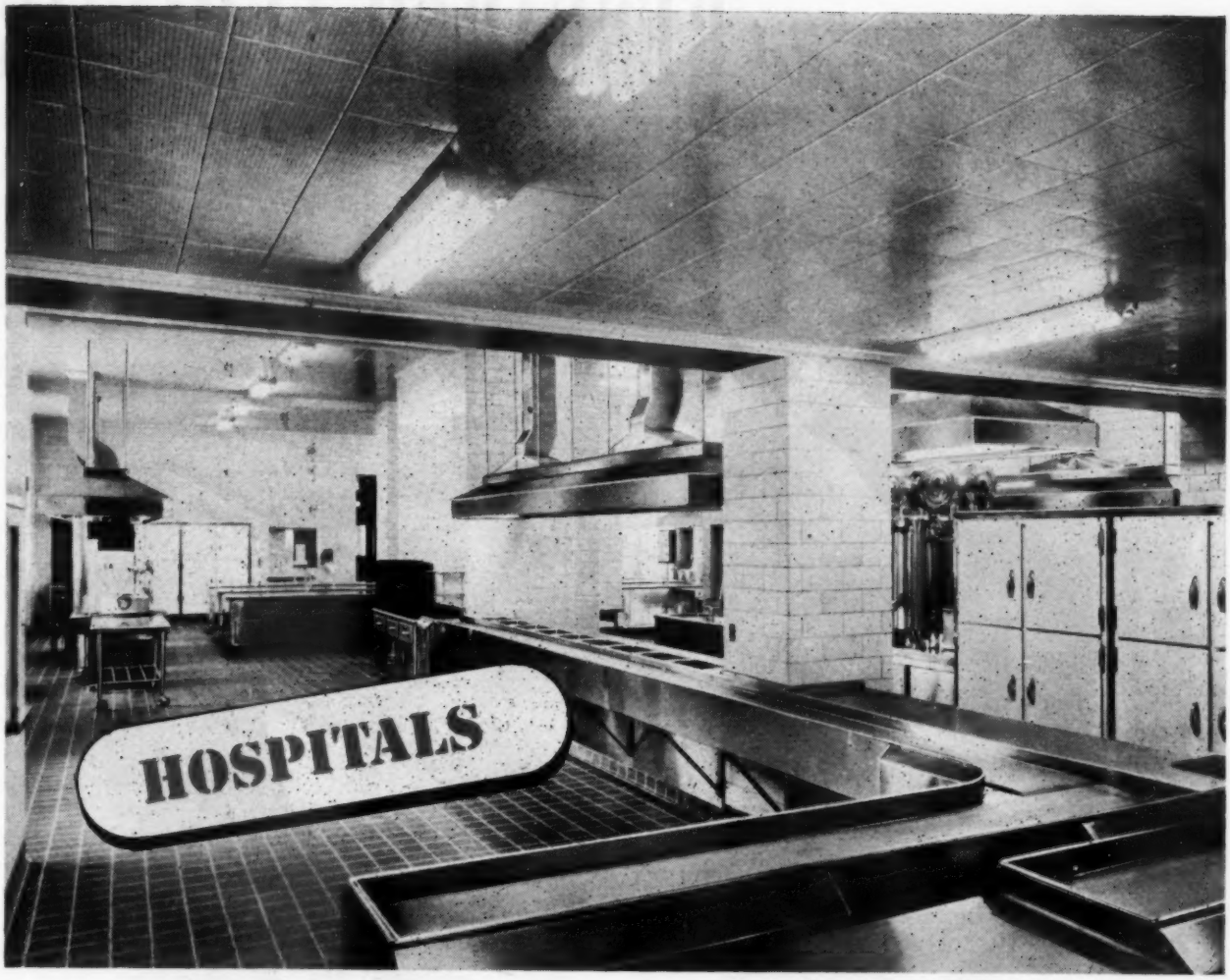
The next time plans call for operating switches, whether for on and off once a day or for continuous switching, suggest the (FA) Shutlbrak. The switch with a faster than the eye shuttle movement . . . silver on copper contacts that actually improve with use . . . (FA) Kamklamp pressure type fuseholders . . . and a fuse compartment that can only be reached when the switch is off. You will make many happy customers.

ESTABLISHED 1891 — THE SIGN OF A BETTER JOB

Frank Adam ELECTRICAL PRODUCTS

FRANK ADAM ELECTRIC CO. ST. LOUIS, MO. U.S.A.

Manufacturers of . . . . SWITCHBOARDS, PANELBOARDS, BUSDUCT, SWITCHES



Fixtures by Day-Brite Lighting, Inc.

From These State Figures You Can Gauge the Volume Of Lighting-Sales Opportunities in Your Territory TODAY

STATE	Hospitals
Region I—New England	**493**
Maine	65
New Hampshire	43
Vermont	31
Massachusetts	246
Rhode Island	25
Connecticut	83
Region II—Middle Atlantic	**1,070**
New York	554
New Jersey	166
Pennsylvania	350
Region III—E. N. Central	**1,175**
Ohio	247
Indiana	137
Illinois	311
Michigan	252
Wisconsin	228
Region IV—W. N. Central	**830**
Minnesota	216
Iowa	149
Missouri	147
North Dakota	48
South Dakota	55
Nebraska	98
Kansas	117
Region V—South Atlantic	**786**
Delaware	17
Maryland	77
District of Columbia	29
Virginia	117
West Virginia	80
North Carolina	166
South Carolina	68
Georgia	127
Florida	105
Region VI—E. S. Central	**396**
Kentucky	98
Tennessee	106
Alabama	95
Mississippi	97
Region VII—W. S. Central	**644**
Arkansas	63
Louisiana	83
Oklahoma	129
Texas	369
Region VIII—Mountain	**402**
Montana	61
Idaho	44
Wyoming	31
Colorado	99
New Mexico	53
Arizona	60
Utah	34
Nevada	20
Region IX—Pacific	**562**
Washington	120
Oregon	74
California	368
Total—United States	**6,358**

The Advance Model RESEARCH LUMINAIRE

FLUORESCENT LIGHTING FIXTURE

Engineered out of the experience and findings of leaders in better lighting.

Made for 2, 4, or 6 lamps with BUILT-IN REFLECTOR.

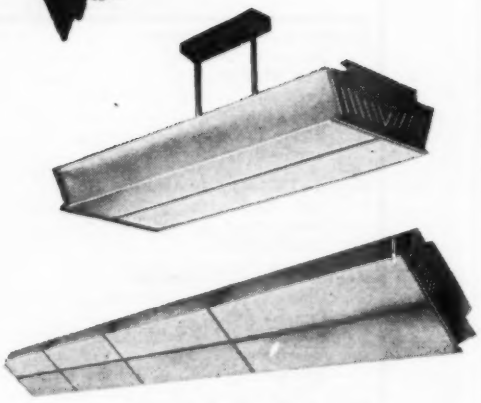
. . . 9-Point Superiority

Several years ago, Solarite engineers collaborated with Utilities Research Commission in developing an efficient and practical luminaire of low surface brightness in the interest of "Better Light—Better Sight" standards. The result of this effort was the Research Luminaire.

We put this question to lighting engineers, architects, contractors and building superintendents: "What are your experiences in fluorescent lighting? What do you require with respect to lighting performance, installation and maintenance?"

The ADVANCE MODEL is your 9-point answer.

It features: 1. Improved Rigid Construction. 2. Longer Ballast Life. 3. Easily Replaced Standard Sockets. 4. New Improved Steel Reflector. 5. "Plasteel" Center Bar. 6. Accessible Glass Panels. 7. Cool Daylight Comfort. 8. Streamlined Beauty. 9. Tested—Certified—Guaranteed.



5 Mounting Application
Individual or Continuous Line

SOLAR LIGHT MANUFACTURING CO.

718 W. WASHINGTON BLVD., CHICAGO 6, ILL.

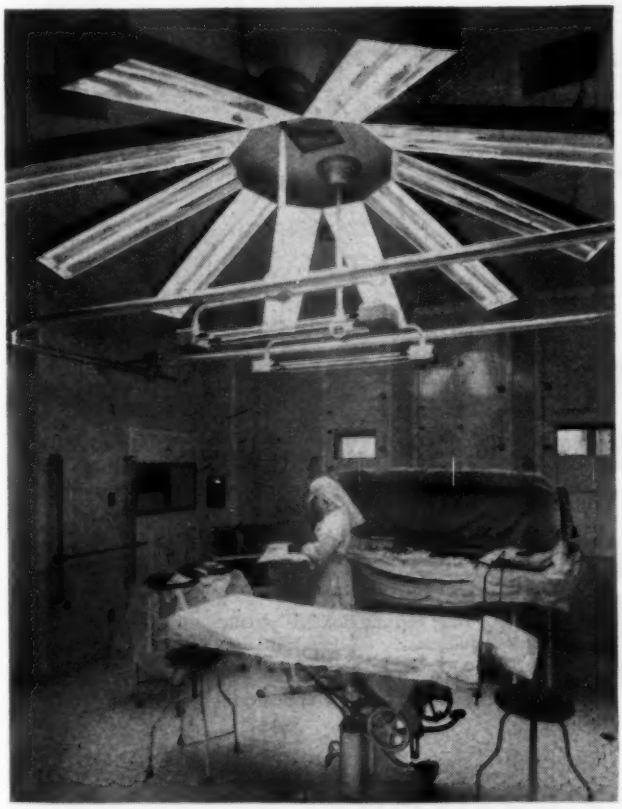
HOSPITALS

NO one wants to go to the hospital—but many wholesaler's salesmen will be going there during the next few years—will if they want to get the lighting business that is latent in 80 percent of the country's 6,358 private, municipal and government hospitals.

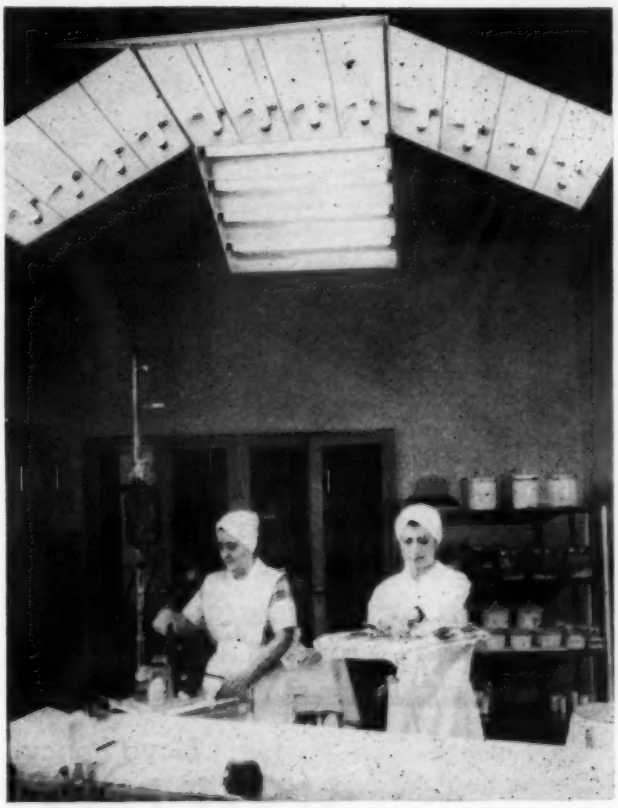
During the war years the maintenance and remodeling of hospitals have been kept to a minimum because of scarcity of materials.

Most hospitals are now in sound financial condition. Wholesaler's salesmen who study the special needs of hospital lighting are in a favorable position to sell these institutions not only higher-level room and corridor illumination, but many types of specialized lighting as well. Lighting for operating rooms and laboratories; bactericidal lamps for nurseries, kitchens, and other points of need; decorative lighting for reception rooms, entrances, lounges. The wholesaler's salesman's knowledge of the application of all types of lighting fixtures will be put to the test in selling hospitals, but it will pay him in large orders.

Only a few of the country's hospitals have made use of good lighting to improve efficiency and help make a more pleasant atmosphere for the patients. Even less so far are using bactericidal lamps to destroy germs, as does the "cradle" in Chicago, above. Photo from General Electric.



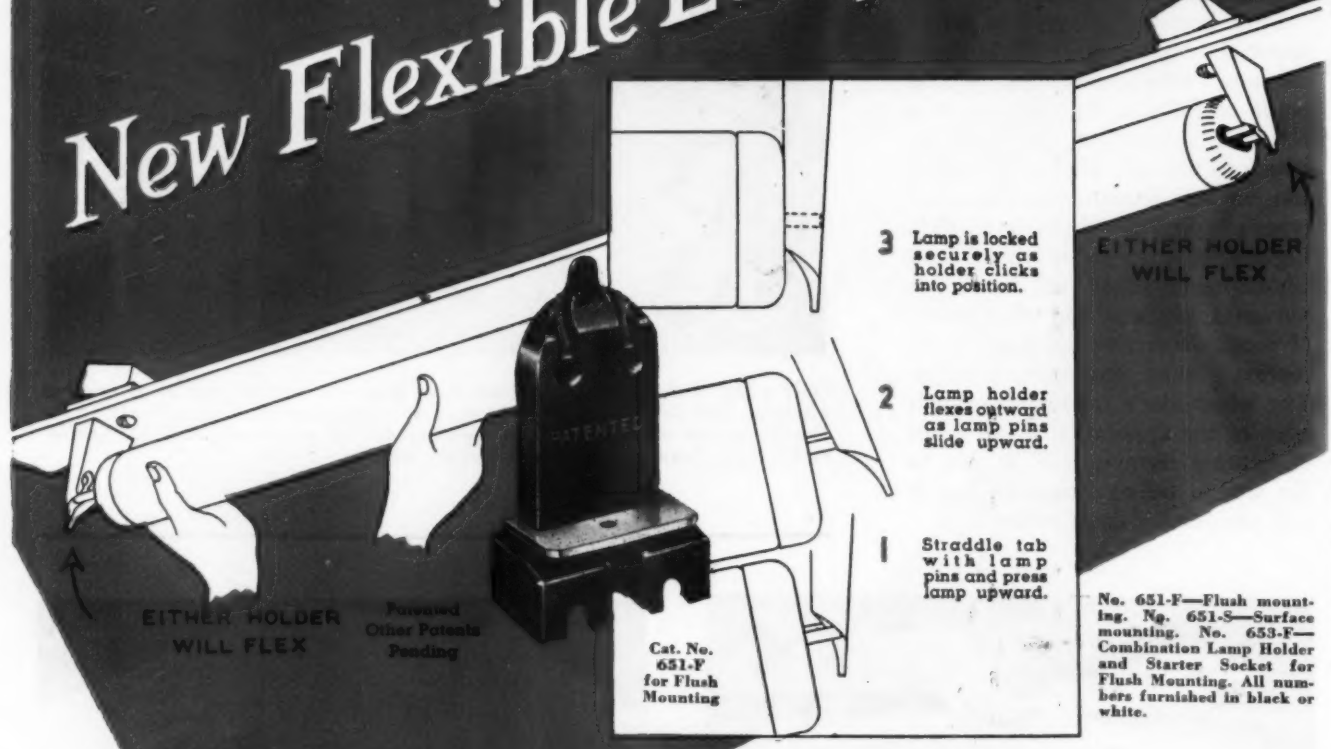
This Seattle, Washington, hospital operating room provides a "sunburst" of 250 footcandles of cool, glareless light on the table from the battery of 20 fluorescent lamps. Bactericidal lamps also are used. Westinghouse photo.



In New York City's Caledonian Hospital, a different arrangement is used to light the operating table. Sixteen daylight lamps and 4 white lamps are used in a total of 4 reflectors to provide 350 footcandles. General Electric photo.

Perfection — *Plus*

Lloyd's New Flexible Lamp Holder


3 Lamp is locked securely as holder clicks into position.
2 Lamp holder flexes outward as lamp pins slide upward.
1 Straddle tab with lamp pins and press lamp upward.
EITHER HOLDER WILL FLEX
EITHER HOLDER WILL FLEX
Patented
Other Patents Pending
Cat. No. 651-F for Flush Mounting

No. 651-F—Flush mounting. No. 651-S—Surface mounting. No. 653-F—Combination Lamp Holder and Starter Socket for Flush Mounting. All numbers furnished in black or white.

Check These 10 Points of FLEX-LOC SUPERIORITY

1. FLEXIBLE—automatic—self-adjusting to variations in length of lamps or of the spacing of mounting holes in reflector units.
2. AUTOMATIC LOCK is positive. No need for extra locking devices to protect lamp. Absolutely safe. Lamp positively cannot fall out. Holder stands all kinds of shocks and vibrations without loosening contact.
3. SIMPLE yet sure insertion and removal. No twisting. No turning. No fussing to seat lamp in the holder. FLEX-LOC Lamp Holder does the work automatically.
4. PERFECT ELECTRICAL CONTACT made absolutely sure and positive by newly designed patented contacts which grip BOTH sides of lamp pins.
5. NEW STREAMLINE DESIGN — Projecting "tab" on lamp holder serves as a guide for inserting lamp and is a means for removing lamp.
6. SIMPLIFIED MOUNTING — Tapped hole in mounting bracket eliminates need for mounting nuts.
7. ADAPTED TO ALL TYPES OF FIXTURES (Counter lighting, continuous line lighting, in reflectors where limited space makes insertion and removal of lamps difficult.) With FLEX-LOC no turning or twisting of lamp is necessary.
8. TESTED AND APPROVED by testing laboratories. Withstands 2,000 foot pounds high impact shock tests.
9. MOLDED from strong-bodied plastic with high dielectric strength.
10. NO NEED TO CHANGE fixture layout. Engineered to fit all standard fixture spacings.

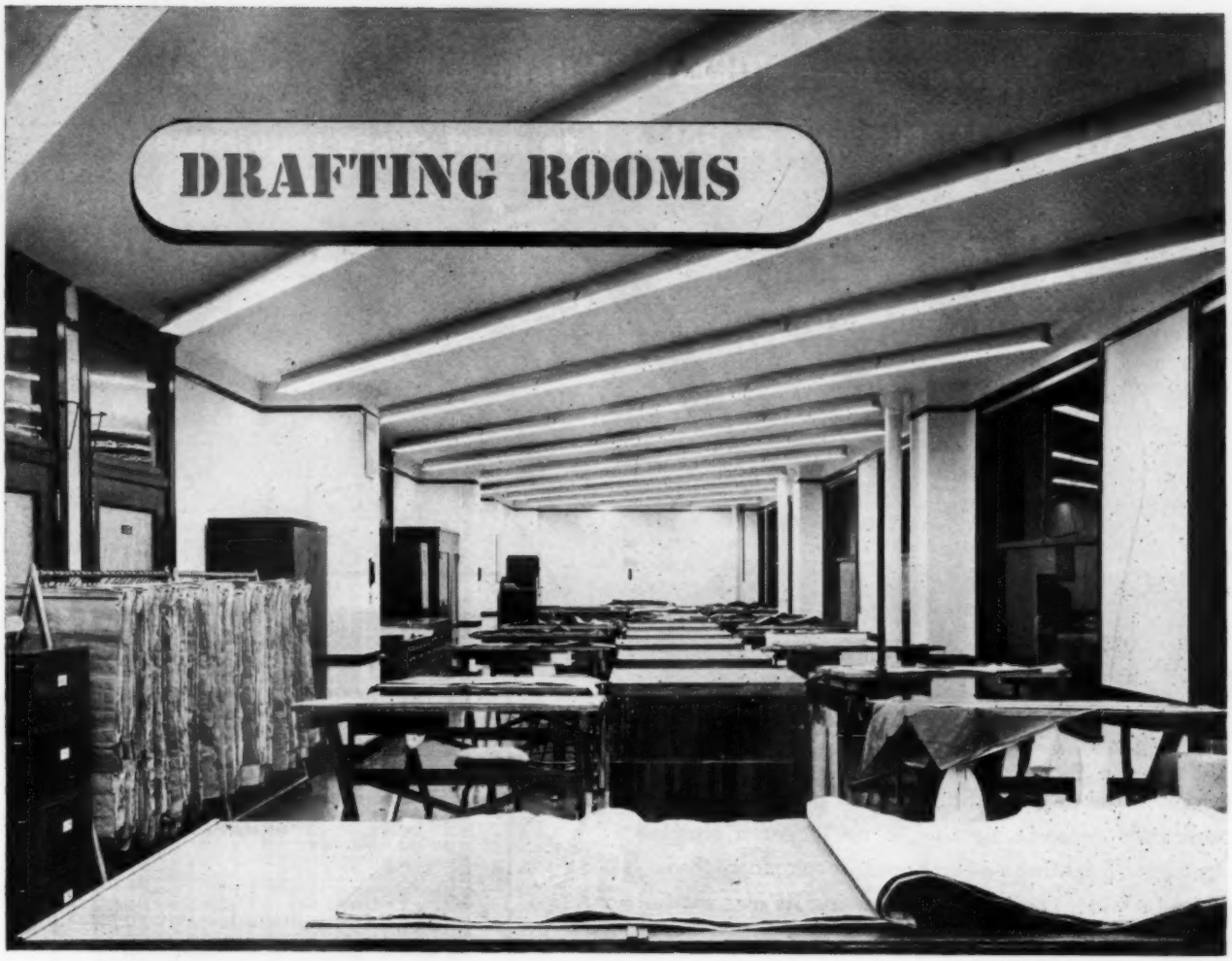
Lloyd Policy Insures Quality

LLOYD PRODUCTS COMPANY

PROVIDENCE 5, R. I.

Representatives and Warehouses in 23 Leading Cities

DRAFTING ROOMS



Fixtures by Curtis Lighting, Inc.

DRAFTING ROOM market for high-level lighting installations did not end with the war. Pressure on draftsmen, engineers, for peacetime designs makes need for good lighting continue

DURING the war years, wholesalers' salesmen have done an effective job of selling high-level lighting for the drafting rooms of war plants and for many war factories which converted. But they have only started to sell this important and profitable field. With restrictions now removed from all types of lighting equipment, the way is open for salesmen to fill the needs of many thousands of factories, contractors and engineering firms, large and small.

During reconversion and changeover, draftsmen and engineers in all types of industry should have the opportunity to get benefits of the extra-high-level lighting so necessary in their difficult work. Eyestrain, low-morale, and costly mistakes can be diminished in the drafting room by low-glare, high-level lighting, plus the use of localized lighting for special seeing tasks. Factory owners can be shown the value of using good lighting as they put the "rush" on orders for drawings and designs of civilian products.

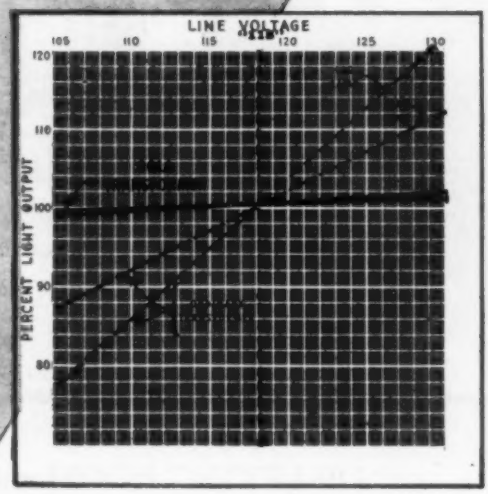
Leads to More Business

As in the days of war-plant lighting, wholesalers' salesmen will find that selling a drafting room lighting installation is often the first step in re-lighting a whole plant or office. The extra-well-lighted drafting room becomes the envy of all workers, makes them see and appreciate the value of good lighting. And it can well be the testing room for management to notice the increase in efficiency that results from proper foot-candle lighting.

Must Know Special Needs

Salesmen whose war-time selling did not include drafting room lighting jobs, should "bone" a little on the special requirements for this specialized work. Not only does the drafting room need high-level lighting—it needs and should have "extra-high," with a level up to 100 footcandles not uncommon. The average "glareless" installation may still provide glare from the surface of tracing cloth, glossy photographs, and other drafting room materials, so attention should be given to new methods of lamp positioning that have been tried during the war.

Whatever the FLUORESCENT light source, there is a SOLA TRANSFORMER or BALLAST to meet every requirement



Selection of the proper light source for particular applications of fluorescent lighting is no longer a simple assignment. Lighting research and development have produced a wider choice, each possessing its own qualifications and requirements.

But regardless of the light source selected there is a SOLA Fluorescent Ballast or Transformer that has been engineered specifically for the requirements of each type of fluorescent lighting.

Many of these fluorescent lamp auxiliaries have been designed around the *new* SOLA Constant Voltage principle. This patented circuit provides regulation to the lamp that was never before possible. With this new added feature, lumen output of lamps can be maintained at calculated levels regardless of fluctuations that are constantly occurring in the primary voltage supply. This maintenance of lumen output represents a definite saving to the user and positive insurance to the lighting engineer of constant footcandles on the working surface.

Whatever your lighting requirements, consult SOLA engineers—they have the answer to the many fluorescent lighting problems that are daily confronting the lighting engineer.

+ + +

SOLA fluorescent Lighting Transformers incorporating the Constant Voltage principle are covered by United States Patents Nos. 2,143,745 —2,212,198—2,346,621.

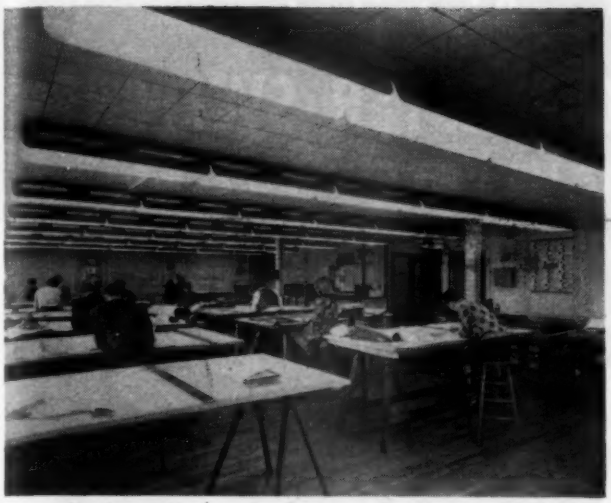
SOLA Lighting Transformers

4 Important Bulletins available on request

- **COLD CATHODE** *Bulletin 4CC-104*
- **COLD CATHODE** *Bulletin 4CC-107*
- **FLUORESCENT** *Bulletin 4 FL-109*
- **FLUORESCENT** *Bulletin 4 FL-110*

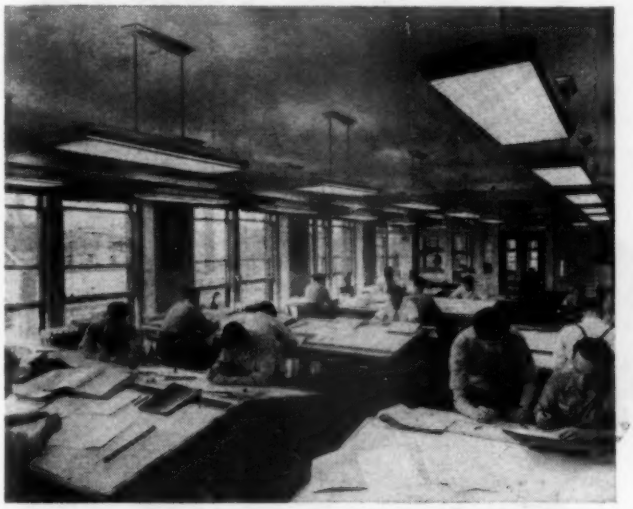
Transformers for: Constant Voltage • Cold Cathode Lighting • Mercury Lamps • Series Lighting • Fluorescent Lighting • X-Ray Equipment • Luminous Tube Signs Oil Burner Ignition • Radio • Power • Controls • Signal Systems • etc. **SOLA ELECTRIC COMPANY, 2525 Clybourn Avenue, Chicago 14, Illinois**

DRAFTING ROOMS

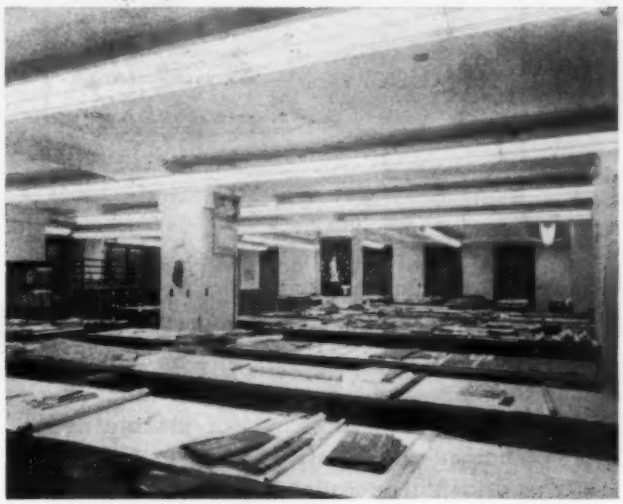


These draftsmen (and the draftslady) have 60 footcandles of illumination on their drawing boards from these continuous rows of reflectors with 2-40 watt lamps in each fixture. Fixtures by Day-Brite.

Drafting room in the engineering department of a technological institute provides high-level lighting from four rows of industrial type fluorescent fixtures mounted 9 feet 10 inches from floor. Fixtures by Benjamin.



This electrical manufacturing concern in Detroit uses suspended-type 4-40 watt fluorescent fixtures with egg-crate louvres to help provide glareless light on the highly reflective surfaces. Fixtures by Silvray.



High-level lighting for drafting rooms is a necessity. Before such fluorescent installations as the one above, localized lighting was popular to provide the see-ability that is required for this eye-straining work. Fixtures by Curtis.

Combination drafting room and engineering office in this Massachusetts manufacturing plant uses continuous rows of fluorescent fixtures to get 60 footcandles on the working surfaces. Fixtures by The Miller Company.

Shadowless lighting from direct-type fixtures was obtained in drafting room of shipbuilding company by "45-degree spacing" of the rows of reflectors. Aluminum reflectors with egg-crate louvres. Rows are 6 feet apart. Fixtures by Guth.

A Profitable Line for Distributors—

"3C" FOOT OPERATED MASTER SWITCHES

(BULLETIN 101-FS)

SILVER TO SILVER CONTACTS
OIL IMPREGNATED BRONZE BEARING NEEDS NO LUBRICATION
BAKELITE CAMS
BOTTOM MOUNTING FLANGE
BROAD MOUNTING FOOT
MALLEABLE IRON FOOT LEVER-ONLY 1½" OFF FLOOR REDUCES OPERATOR FATIGUE
LATCH RECESS
HARDENED STEEL ROLLER ON PHOSPHOR BRONZE SHAFT

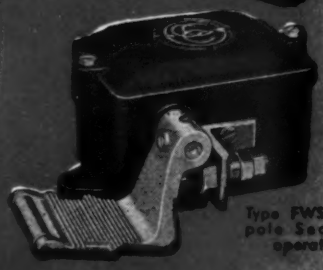
Open View—Type FSA-22, 2 Pole, Horizontal Mounting—Left Hand operation.

The use of "3C" Foot Switches releases the operator's hands for other duties, thus speeding production. A "3C" Foot Switch provides a sturdy, long life mechanism, accurate and dependable, with minimum maintenance. Latches for maintained contact and safety shields to prevent accidental operation are available. It will pay you to investigate the advantages of the Clark Line of Foot Operated Master Switches as described in "3C" Bulletin 101 F-S.

Completeness of line gives "3C" Distributors a distinct advantage when figuring on foot-operated switches. Write for fully descriptive "3C" Bulletin 101 F-S.

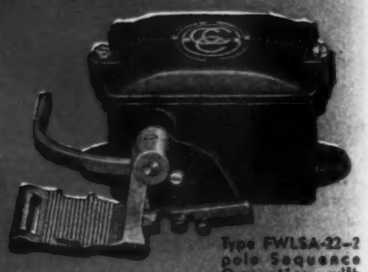
Type FSVA-11, 22 or 33–1 or 2 pole, with Latch. Vertical Mounting.

Type FSLA-11, 22 or 33–1 or 2 pole, with Latch. Horizontal Mounting.



Type FWSA-22–2 pole Sequence operation.

Type FRSA-22–2 pole, 3 position.



Type FWLSA-22–2 pole Sequence Operation, with Latch.

Type FSA-44–4 pole Horizontal or Vertical Mounting. Watertight.

Type [illegible] 4 pole, 3 position—Horizontal Mounting. Watertight.

Safety shield and floor plate optional on any 1 or 2 pole "3C" foot switches.

THE "3C" LINE IS THE IDEAL LINE FOR DISTRIBUTORS TO HANDLE

THE CLARK CONTROLLER CO.

1146 EAST 152nd ST., CLEVELAND 10, OHIO • EVERYTHING UNDER CONTROL

Same tape... same Boy

GIVE an American boy a roll of friction tape and he'll tackle just about any kind of a repair job that comes along... with the odds on his doing it successfully.

When boys like that donned uniform they found their old workbench friend more useful than ever.

Take the men in the Signal Corps, whose resourcefulness in emergencies is legendary. They use a lot of friction tape—from their basic training schools right up to the front line observation posts. And a lot of that tape bears a familiar name—"Holdtite".

Same boy... same tape... made by the same people—United States Rubber Company.

People who buy products create jobs for people who make products. That's how a business grows big. It is your liking for "U.S." products that built this company.

In the field of mechanical rubber goods alone "U. S." products are in use in every phase of the vast, complex war machine... on land, at sea, in the air.

Under the whiplash of military necessity, great scientific strides have been taken in adapting rubber to new purposes. The lessons learned, the skills and techniques perfected will not be lost or forgotten at war's end.

They will be utilized to benefit you... to give you new and better products that bear the "U. S." seal.

SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

1230 SIXTH AVENUE, ROCKEFELLER CENTER, NEW YORK 20, N. Y. • *In Canada:* DOMINION RUBBER CO., Ltd.

FLUORESCENT FIXTURES, INC. · MILWAUKEE 5, WIS.

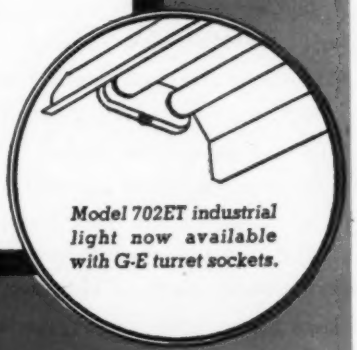
Freddy Firefly says:

We are busier than ever these days . . . thanks to your fine response to our last announcement. We are taking your confidence in our product seriously, and we guarantee a continuance of the QUALITY that has made our fixtures so famous.

. . . as new developments occur, they will be incorporated into our complete line of commercial, kitchen, industrial, and strip lighting fixtures.

Our immediate plans also call for the use of the Lloyd Flex-lock socket . . . samples are available now with this socket.

Write for condensed price list.



Model 702ET industrial light now available with G-E turret sockets.

Fluorescent FIXTURES, INC.

2051 N. 19TH STREET · MILWAUKEE 5, WIS.

Manufacturers of the Famous Firefly Fixtures

News Notes From N.E.W.A.

By Alfred Byers, *Secretary*
National Electrical Wholesalers Association

V-J DAY SETS NEW N.E.W.A. GOALS

"The dramatic and welcome end of the Japanese war was the signal for diverting N.E.W.A.'s energies from war to peace-time pursuits," according to an opinion expressed by Managing Director Charlie Pyle immediately following the V-J Day celebrations.

Although the end of the war did come with blessed suddenness, electrical wholesalers, through their national association, already had managed to make rather substantial preparations for the new conditions of peace during the past two years or more as time could be devoted without interference with the exacting requirements pressed upon electrical wholesalers by the war emergencies.

The association's Planning Committee has accumulated a store of valuable information on many phases of wholesaling and market opportunities. The study of that information as it has been released from time to time during that period has prepared electrical wholesalers to take advantage, quickly, of the many opportunities which now will be reopened.

In speaking about this particular association activity, Charlie Pyle declared that Mr. Herbert Metz, the Planning Committee's chairman, and the members of his committee through the singular preparations made for each of their forum meetings and the diligence with which subjects were discussed by members and guests present have made a contribution to the wholesale distribution of electrical appliances and supplies upon which it would be impossible to place a dollar value.

At this writing a thorough review is being made by the managing director and his staff of all association activities. The activities and services of N.E.W.A. have been highly evaluated during the war effort by a great many members who have commented on them. The activities and services of N.E.W.A. will insure to the present vast membership a national trade association in which the entire industry can take great pride and out of which its members will derive great personal satisfaction by their support and tangible benefits to their individual businesses. Managing Director Pyle has stated that through its cooperation with the war effort N.E.W.A. has greatly profited in "know-how." That "know-how" will, he said, be put to excellent use in the postwar period for the even greater advancement of electrical wholesaling which has become a tremendous factor in American economic as well as domestic life.

VETERANS' REEMPLOYMENT PROGRAM

The Veterans' Reemployment Program, as sponsored and offered to the entire industry by N.E.W.A., still remains one of the foremost of the Association's promotional programs. Obviously the sudden arrival of V-J Day has brought that plan into much sharper focus. One of the particular activities of Mr. Hill during his summer travels has been to bring the association's Veterans' Reemployment Program to the special attention of Electric Leagues wherever he has been. In view of the arrival of V-J Day this has proved to be real foresight because every community can now begin, without delay, the actual operation of a Veterans' Reemployment Program.

Managing Director Pyle also has urged a number of members in key centers throughout the country to put this program into operation in their areas in order that all branches of the industry in those communities can begin to employ returning veterans who have been trained electrically while in the service and who, upon their return to civilian status, necessarily must seek employment. Results to date have been encouraging and the returning veterans and the industry itself should begin to feel the good effects of this program real soon in the areas where the program has been adopted.

Information regarding this program and the simple and inexpensive materials required in its operation can be procured by any electrical establishment in any community by addressing inquiries to:

1945's HOTTEST ITEM!

the amazing
SUCCESS STORY of WABASH-BIRDSEYE INFRA-RED HEAT LAMPS

Stores that featured Wabash-Birdseye Infra-red Heat Lamps in their announcements, like those of Jordan Marsh & R. H. Macy following their introduction last spring, found their shelves empty 24 hours later! Eager customers by the thousands snapped up the limited supplies!

This war-born answer to the old-fashioned hot water bottle and heating pad has already found its way into thousands of homes and soon literally hundreds of thousands more will be able to own an Infra-Red lamp for home therapeutic and other uses.

V-J Day has placed Wabash in a position to meet a larger proportion of this unprecedented demand.

It will pay you handsomely as it has paid others to "latch on" to profit-making Wabash-Birdseye Infra-red Heat Lamps!

JORDAN MARSH COMPANY
Bake out deep down aches with a Birdseye infra-red lamp bulb
1.60*
Do you struggle with a leaky hot water bottle? Are you putting up with your aches till electric heating pads are back? Why should you, when for only 1.60 you can have a soothing Infra Red Lamp. Its warm rays penetrate deep down, helps to alleviate muscular aches, pains, and cold congestion. All you need is the lamp bulb which screws into any household socket (AC or DC). Macy's Famous Basement.
BOTH VALLEY SHOPS ARE ALSO AT MACY'S-PARKCHESTER
Macy's, open tomorrow (Lincoln's Birthday) 9:45 a
to 6 p. m. Macy's-Parkchester open late Thursdays and Saturdays

Order your supply today!

WABASH APPLIANCE CORPORATION

345 Carroll Street **Brooklyn 31, N. Y.**

WABASH-BIRDSEYE... FIRST IN INFRA-RED

National Electrical Wholesalers Association, 500 Fifth Avenue, New York 18, New York.

FIELD WORK FOR APPLIANCE DIVISION

During the summer months, R. C. (Bob) Hill, director of the N.E.W.A. Appliance Division, has traveled extensively among the membership in the Mid-west in the particular interest of N.E.W.A.'s Veterans' Re-employment program. Among the states he has traveled are Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Wisconsin and Minnesota.

A number of applications for membership in the Appliance Division have resulted from these field visits and the members in the areas covered have been brought up to date on the various activities of the association and, in particular, the Appliance Division.

Mr. Hill has observed that there is a growing optimism among appliance distributors as to the future business prospects for the electrical appliance industry. New locations are being opened in anticipation of the renewal of appliance production and extensive renovations of existing distributor establishments and the construction of new warehouses and display rooms are in prospect in many marketing centers.

The association also has become aware of this trend through the receipt at its headquarters of inquiries for floor plans and lay-out recommendations which have been released through the report of the Warehousing, Deliveries, Installations, Freight Rates and Claims Committee.

There have been a number of instances reported by Mr. Hill from the field where Appliance Division members have referred most commendably to the efforts that have been given by the association in connection with specific problems concerning their operations. He also has reported that the renewal of normal peace-time operations embracing conventions and committee meetings and conferences are being looked forward to eagerly by the members he has visited.

There is a noticeably growing opinion that with the resuming of civilian production the electrical appliance distributing industry will take on a much firmer stability because of the creation of a representative and active Appliance Division within the sound framework of N.E.W.A. A definite result of Mr. Hill's summer field work has been the enhancement and growth of the Appliance Division of N.E.W.A. and the knowledge as well that its members, individually and collectively, already consider this Appliance Division to be a highly successful medium through which to advance the cause of wholesale distribution and to more widely spread the use of electrical appliances in industry and in homes throughout every market of the country.

N.E.W.A. PLANS FOR FUTURE

A N.E.W.A. convention during the balance of 1945 is hardly likely. In its stead, however, plans are being formulated for the holding of several forum meetings by the Planning Committee and meetings of some of the functional and commodity committees of the association of both the Appliance and the Apparatus and Supplies Division.

These meetings will be planned on the basis of developing the latest helpful information in line with the resumption of more normal peace-time civilian business. Having devoted themselves practically exclusively to the consideration of problems connected with cooperation with the war effort, these meetings now, after a period of three years or more, can consider the development of data of more lasting value. The agenda for these meetings are being prepared with that objective in view, and the results to the membership, to be made by the committees which will meet, should prove highly valuable to every member of the association regardless of the particular types of products handled.

The idea of holding association committee meetings apart from conventions was instituted by Managing Director Pyle early this spring and has been inspiring both from an association and industry point of view. The practice now well established will be continued and Mr. Pyle confidently expects that the basic soundness of that idea will be amply demonstrated by the completeness of committee reports which, in the meetings held so far this year, have established high records of excellence.

★ ★ ★ ★ ★

THE FORMULA HAS TO BE RIGHT FOR A LONG, USEFUL LIFE

Only patient, scientific research could have produced a rubber formula combining all the desirable characteristics of Nubun—U.S. Rubber Company's new insulation for wiring.

Extremely tough as well as flexible, this buna compound assures longer life for the wires and cables used in the coming era of intensified electrification. The high dielectric strength of Nubun permits reduction of over-all diameters . . . without endangering circuit integrity . . . allows more wires to be encased in a single conduit.

Nubun will be used in innumerable ways . . . for building and industrial wiring, for control and signal systems and for communication services. Nubun is young . . . but Nubun is headed for a bright future in electricity.

Serving Through Science

UNITED STATES RUBBER COMPANY

1230 SIXTH AVENUE • ROCKEFELLER CENTER • NEW YORK 20, N. Y.

NEW PRODUCTS you can SELL

FLUORESCENT UNIT

Fluorescent CurtiStrip is made with the following three types of reflectors: a deep reflector where considerable shielding is needed, a more distributing shallow reflector, and an asymmetric reflector for lighting walls and vertical surfaces. This unit is suitable for stores, offices, bench lighting and other factory jobs. Curtis Lighting, Inc., Chicago, Ill.

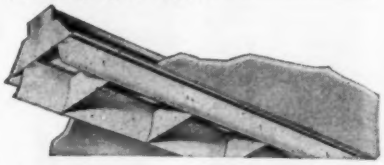
When writing mention WHOLESALER'S SALESMAN

LAMP

RE-40 250 watt infra-red heat lamp may be sold for home therapeutic and other uses by department stores, drug chains and leading retail electrical and hardware outlets. Wabash Appliance Corp., Brooklyn 31, N. Y.

When writing mention WHOLESALER'S SALESMAN

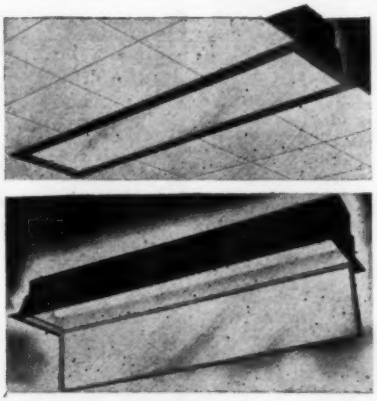
FLUORESCENT UNIT



L-O-D recessed troffer is made for two and three 40-watt F lamps per 48 inch section, and is available in tee-bar or flange type construction. It may be installed as units, or in continuous rows. This unit is equipped with engineered baffles which deflect portions of the fluorescent light rays to adjacent ceiling areas. The Edwin F. Guth Co., St. Louis 3, Mo.

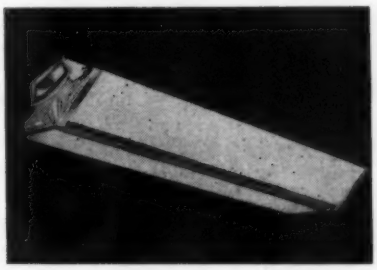
When writing mention WHOLESALER'S SALESMAN

FLUORESCENT FIXTURE



"Recessed Troffer" fluorescent fixture is designed to fit in as little as 7-inch space between the true ceiling and the false ceiling into which fixtures are recessed. It is made for both individual installation or continuous runs in open, louvered or ribbed glass models for 2, 3 or 4, 40-watt lamps with instant start or starter ballasts. Glass shield or louver may be opened, or removed altogether. Top of reflector is also easily removable so that wiring and ballasts may be reached without taking down the fixture. R. & W. Wiley, Inc., Buffalo 7, N. Y.

LIGHTING UNIT



Model No. 3003 shielded 2-light unit, for 2-40 watt lamps, is available for surface or suspension mounting, individually or in continuous rows. Operation is on 110-125 volts, 60 cycles a.c. Light is scientifically diffused through double strength prismatic ribbed glass panels. Mitchell Mfg. Co., Chicago 14, Ill.

When writing mention WHOLESALER'S SALESMAN

FLOODLIGHT

Long range floodlight for illuminating large sports areas, is available in either open style or with water-tight, heat-resisting glass lens. Used individually or in combination, it can deliver either a narrow or medium beam. Bracket mounting provides calibrated adjustments for accurate positioning of the floodlight both vertically and laterally. Goodrich Electric Co., Chicago 41, Illinois.

When writing mention WHOLESALER'S SALESMAN

There are Switch and Circuit Breaker

CONDULETS

CONDULETS are made only by CROUSE-HINDS

to meet your every need.

The illustrations show a representative selection from the hundreds of different switch and circuit breaker CONDULETS—each designed for its special purpose, to help you do the job and do it right.

No. 2
of a series of advertisements which demonstrate that CROUSE-HINDS "complete line" means much more than just a range of sizes—there is a wide variety of highly specialized types in each classification.

Type C Condulet with Switch

Type FSQ Interlocking Safety Switch and Receptacle Condulet

Type C Condulet with Vaportight Switch

Type FS, Two-Gang Tandem Vaportight Condulet with Switch and Plug Receptacle

Type MSR Two-Gang Watertight Marine Interlocked Switch and Receptacle Condulet

Type DXE Condulet with Two Switches

Type GSB Three-Gang Vaportight Condulet with Switches

Type FST Threadless Condulet with Switch

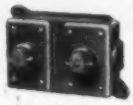
Type FA Four-Gang Watertight Safety Switch Condulet

Type ZT Safety Switch Condulet

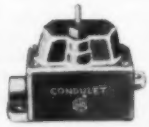
Type WMK Raintight Safety Switch Condulet

Type WMKS Raintight Safety Switch and Interlocking Receptacle Condulet

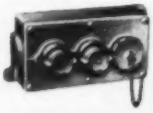
Type FS Condulet with Pilot Light, Switch and Plug Receptacle


Type FS Two-Gang Watertight Marine Switch Condulet

Type GRF Condulet with Switch

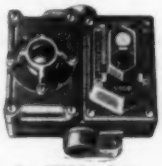

Type EFS Explosion-Proof Switch Condulet

Type FSC Vaportight Push Button Station Condulet

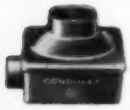

Type MSR Three-Gang Watertight Marine Switch and Receptacle Condulet

Type FHRC Mercury Switch Thermostat Condulet

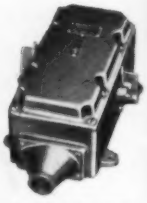
Type DVS Dust-Tight and Vaportight Circuit Breaker Condulet


Type EFSC Two-Gang Explosion-Proof Push Button Station and Pilot Light Condulet

Type DVS Dust-Tight and Vaportight Circuit Breaker Condulet

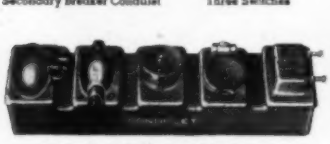

Type FS Vaportight Push Button Station Condulet

Type FG Door Switch Condulet

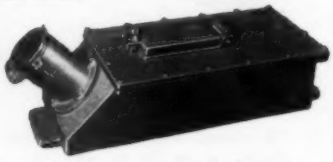

Type YSW Vaportight and Weatherproof Circuit Breaker Condulet

Type FDC Vaportight Secondary Breaker Condulet

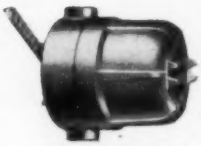
Type FS Vaportight Condulet with Three Switches


Type FS, Five-Gang Condulet with Switches and Plug Receptacles

Type FS Three-Gang Condulet with Switches

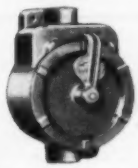

Type WBR Weatherproof Circuit Breaker and Receptacle Condulet

Type FGCH Explosion-Proof Switch Condulet for Gasoline Bulk Stations


Type EMS Explosion-Proof Mercury Limit Switch Condulet

Type FSPC Explosion-Proof Switch Condulet with Threaded Cover

Type EGP Explosion-Proof Mercury Switch Condulet for Panel Mounting

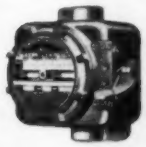

Type FLDC Explosion-Proof Secondary Breaker Condulet

Type FLS Explosion-Proof Switch Condulet

Type EGP Explosion-Proof Push Button Station and Pilot Light Condulet for Panel Mounting

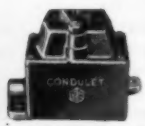
Type FSQC Explosion-Proof Interlocked Receptacle and Switch Condulet

Type GUB Explosion-Proof Motor Starting Switch Condulet

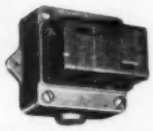

Type GUSC Explosion-Proof Line Starter Condulet

Type EFS Explosion-Proof Push Button Switch Condulet

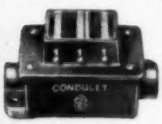
Type HRC Explosion-Proof Mercury Switch Thermostat Condulet

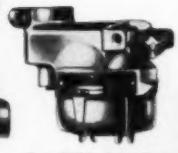

Type EFD Explosion-Proof Motor Starting Switch Condulet

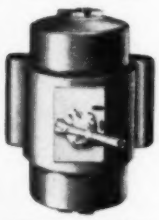
Type EFS Two-Gang Explosion-Proof Push Button Switch Condulet


Type HR Explosion-Proof Thermostat Condulet

Type EFSC Explosion-Proof Control Station Condulet


Type EFSC Explosion-Proof Triple Switch Condulet


Type OFC Explosion-Proof Push Button Station Condulet


Type EPC Explosion-Proof Circuit Breaker Condulet

A Nationwide Distribution Through Electrical Wholesalers

Complete listings of each type are in Condulet Catalog No. 2500 or in supplementary bulletins.

CROUSE-HINDS COMPANY

Syracuse 1, N. Y., U.S.A.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Kansas City — Los Angeles — Milwaukee — Minneapolis New York — Philadelphia — Pittsburgh — San Francisco — Seattle — St. Louis — Washington. *Resident Product Engineers:* Albany — Atlanta — Charlotte
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

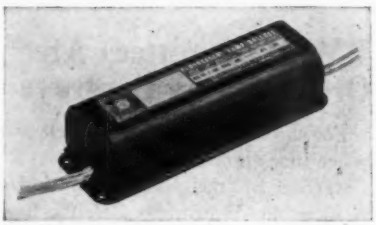
CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

FLUORESCENT UNIT

Model VL-440 fluorescent lighting unit is designed for installation as single units or in continuous rows. It is equipped for 2 lamps and features adjustable spot lighting attachment for attraction lighting of merchandise displays. Leader Electric Mfg. Corp., Chicago 40, Ill.

When writing mention WHOLESALER'S SALESMAN

BALLAST



W2-48 fluorescent lamp ballast is designed for the operation of two 40-watt fluorescent lamps. It includes the end or bottom lead arrangement. Other features provide for minimum temperature rise, quiet operation, etc. Sola Electric Co., Chicago 14, Illinois.

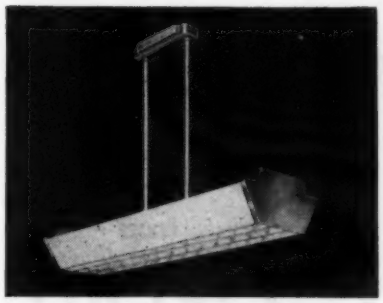
When writing mention WHOLESALER'S SALESMAN

FLOODLIGHT

Portable floodlight is adaptable for use in airports, shops, warehouses and other auxiliary lighting. It is made in three sizes with plain, ribbed or stippled lenses, to accommodate 150-200 watt, 300-500 watt or 750-1000 watt lamps. This unit is available with focusing mechanism or with fixed focus. Revere Electric Mfg. Co., Chicago 40, Illinois.

When writing mention WHOLESALER'S SALESMAN

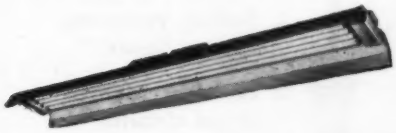
FLUORESCENT LUMINAIRE



No. A-4440 fluorescent luminaire features an egg crate louver bottom. This unit utilizes four 40-watt, T-12 fluorescent lamps operating on a voltage of 110-125, 60 cycle a.c. Luminaire can be surface or suspension mounted individually or in continuous rows. Pittsburgh Reflector Co., Pittsburgh 22, Pa.

When writing mention WHOLESALER'S SALESMAN

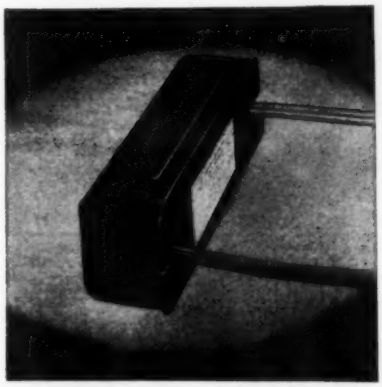
FLUORESCENT FIXTURE



Eight-foot all-steel cold cathode fluorescent fixture employs the 93 inch low voltage colovolt lamps. May be had in 2-lamp and 4-lamp models for mounting singly or in continuous lines. General Luminescent Corp., Chicago 5, Illinois.

When writing mention WHOLESALER'S SALESMAN

BALLAST



Two-way-lead ballast is available in Tulamp 30 and 40-watt, standard cross-section; Tulamp 40-watt, high voltage; Tulamp 100-watt; Three-lamp 40-watt; Forlamp 100-watt. Leads may be brought out at either ends or bottom of ballast case. It is applicable to exposed or enclosed mounting on both commercial and industrial fixtures. General Electric Co., Schenectady 5, N. Y.

When writing mention WHOLESALER'S SALESMAN

BACTERICIDAL UNIT

Equipped with a highly concentrating Alzak reflector the Bactericidal Barrier Fixture can be arranged to curtain-off an entire area against outside germs. It is available in two sizes, and is for use with 15-watt and 30-watt bactericidal lamps. The Edwin F. Guth Co., St. Louis 3, Mo.

When writing mention WHOLESALER'S SALESMAN

MIDGET FUSE PLUG

Lock type single phase midget-fuse plug is suitable for universal motors and other single phase equipment. This plug provides circuit protection for connecting wires, motor winding protection and a disconnect and automatic locking feature. Surface and flush mounting receptacles and cord connectors are available. Russell & Stoll Co., New York, N. Y.

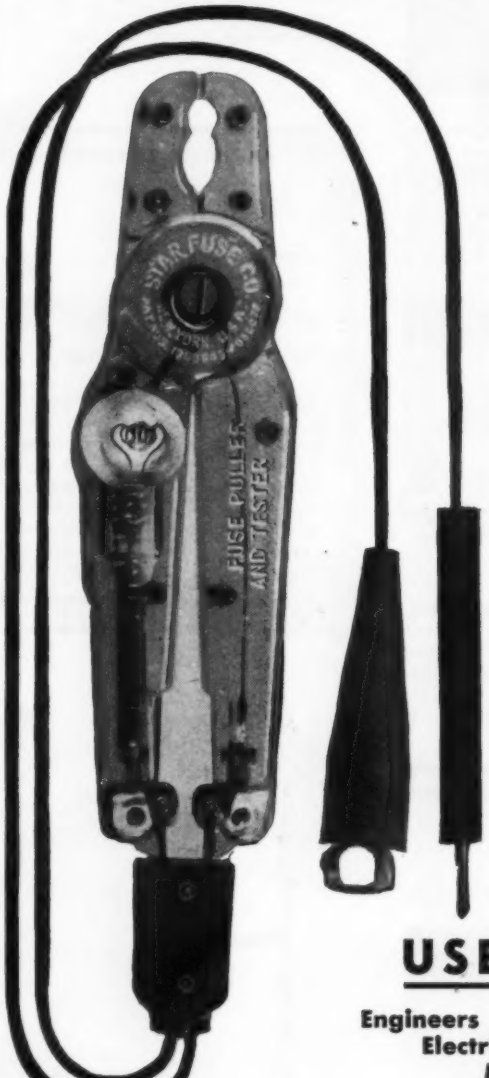
When writing mention WHOLESALER'S SALESMAN

INFRA-RED UNIT

Model 60-447 infra-red unit provides radiation coverage of approximately 2000 square inches, utilizes 16 reflectors in four sections of four reflectors each. It is wired to accommodate lamps ranging from 125w to 500w 120v., and is suitable for automotive and electrical repair shops, experimental and testing laboratories. The Fostoria Pressed Steel Corp., Fostoria, Ohio.

When writing mention WHOLESALER'S SALESMAN

The STAR ★ FUSE PULLER and CIRCUIT TESTER



Does 3 BIG JOBS:

1 Safely removes blown fuses

2 Quickly locates dead circuits

3 Replaces old-fashioned test lamps

Indispensable

In Homes
Factories
Hotels
War Plants
Hospitals

USED BY

Engineers
Electricians
Maintenance Men
Home-Owners

Saves Time, Prevents Shock or Injury, Eliminates Guesswork

Made of a Transparent Plastic having in one of the legs a small lamp in series with a resistance and can be used to test 110 to 250 volts circuit. It will pull fuses from 10 to 100 Amperes.

Thousands of electricians find this tool handier than Test Lamps. Requires the use of only ONE hand to quickly and accurately test circuits.

Retails at $2.75 each, $1.50 additional for Leads.

The Star Fuse Puller and Circuit Tester has been advertised in more than 70 leading publications throughout the United States.

***Mr. Jobber:* Don't wait for our salesman. He has gone to war.**

WRITE TODAY for Quantity Prices—or MAIL your ORDER NOW

STAR FUSE CO. 168 Centre St., New York 13,N.Y.

NEWS

(*Continued from page* 63)

2, put modern electric wiring at the top of the list of things to do; and 3, acquire some of the things you will want as soon as they become available.

The 32 cooperating banks have distributed nearly 400,000 of these leaflets. The banks underwrite half the cost and the association the other half. A second leaflet in the home series is in prospect as is one designed for distribution to retailers which emphasizes the need for postwar store modernization.

RMA Committees Are Organized by Cosgrove

For the industry's early reconversion to peace-time production, President R. C. Cosgrove of the Radio Manufacturers Association, Washington, D. C., has organized and appointed RMA committees for the ensuing year, following the RMA annual meeting last June in Chicago.

New peace-time activities of RMA and new services for its membership, now numbering 264—the largest in almost two decades—have been planned, including prompt collection of industry statistics of peace-time production.

General RMA management continues under President Cosgrove and the RMA Board of Directors, which has its next meeting scheduled October 10-11, with the officers and directors of the Canadian RMA as guests, at the Westchester Country Club, Rye, N. Y.

RMA Division operations are under the direction of the following:

Set Division: Chairman—E. A. Nicholas, Farnsworth Television & Radio Corp.; *Tube Division:* Chairman—M. F. Balcom, Sylvania Electric Products, Inc.; *Transmitter Division:* Chairman—C. J. Burnside, Westinghouse Electric Corp.; *Parts Division: Chairman* — R. C. Sprague, Sprague Electric Co.; *Amplifier & Sound Equipment Division:* Chairman—Lee McCanne, Stromberg-Carlson Co.

Major industry problems, with WPB on industry reconversion and OPA on post-war prices, also disposal of war surpluses, are under the *Industry Reconversion Committee,* headed by A. S. Wells of Wells-Gardner & Co. Paul V. Galvin of Galvin Mfg. Corp., is the vice chairman of the committee and its membership includes:

M. F. Balcom of Sylvania, Dr. W. R. G. Baker of GE, E. A. Nicholas of Farnsworth, R. C. Sprague of Sprague Electric, T. A. White of Jensen Radio

GEORGE R. SOMMERS becomes sales manager on the Pacific Coast for the Lighting Division of Sylvania Electric Products, Inc. He has been with the company since 1940, first in New England and then in Washington, D. C.

Mfg. Co., Walter Evans of Westinghouse Electric Corp., A. Blumenkrantz of General Instrument Corp., Monte Cohen of the F. W. Sickles Co., and Elmer R. Crane of Lear, Inc.

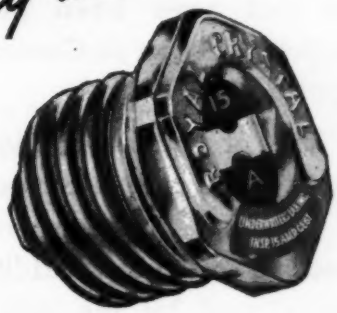
Predict Market For Million Fast Freezers

Demand for approximately 1,000,000 home and farm freezer units in the next year was predicted last month by the Refrigeration Equipment Manufacturers Association. The estimate was based on the compilation of facts gathered through consumer surveys and reports issued by government agencies, university extension departments, farm and trade publications and farm organizations.

A large percentage of this first million freezers is expected to go into farm homes, according to F. J. Hood, president of the association, who pointed out that it was the nation's farmers who pioneered the use of home freezing units and that these same farmers now have total reserves, available for buying consumer products, of more than 12 billion dollars.

In addition, Mr. Hood said, electrified farms are expected to increase at least 50 percent as a result of programs of the REA and public utilities. But growing popularity of the home freezing method is by no means confined to farm families, the association statement continued. In cities and suburban communities, this method has shown a definite upward trend since the start of the war,

ROYAL quality steadily goes up, so ROYAL products will never "let you down"! ... and, normal delivery will soon be a reality.

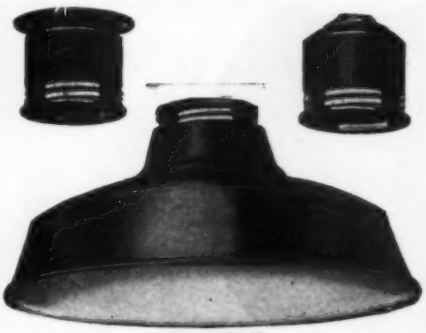


ROYAL *Crystal*.. the original glass-top fuse

ROYAL

WIRE • CORD SETS • CARTRIDGE and PLUG FUSES • FUSTATS • TROUBLE LIGHTS • CHRISTMAS LIGHTING SETS

ROYAL ELECTRIC CO., Inc., PAWTUCKET, R. I.



No. 1164-M
RLM THREADED
DOME REFLECTOR

ADJUSTABLE PORCELAIN
ENAMELED FLOODLIGHT

QUAD

LIGHTING UNITS

QUADRANGLE 500 WATT RLM

★ The immensity — not to speak of the urgency—of war production, demands lighting installations that have been proved. QUAD Units are the selection of Contractors to aid in this important work.

★ The QUAD line of Industrial Lighting Fixtures—RLM and other porcelain enameled units—fills all high intensity requirements. The need for so many additional installations necessitated by the war program means that QUAD is the line to take care of any lighting need.

QUAD . . . for today and for tomorrow.

QUADRANGLE MFG. COMPANY

Mfgrs. of Incandescent and Fluorescent Lighting Equipment

32 SO PEORIA ST. CHICAGO, ILL.

partly as a result of the activities of Victory gardeners.

Further substantiating the optimism about the market for fast freezers is the fact that commercial food packers envision a soaring in sales of frozen foods to 3,500,000,000 pounds annually, with 2000 companies processing and packing such foods by means of mechanical refrigeration.

Leo J. Meyberg Co. Sells Supply Business

As of the close of business, July 28, 1945, the Leo J. Meyberg Company of Los Angeles sold all merchandise and good will of its electrical supply division to Sam K. Gryde, DBA Standard Wholesale Electric Co.

Standard Wholesale Electric will occupy space at the Meyberg location, 2027 So. Figueroa St., Los Angeles, for a period of several months and by reason of continuing in its employ certain of Meyberg key personnel will be in a position to furnish high-class service on electrical supply items.

The Meyberg company explains that the move was made in order to dovote its entire time and energy to the distribution of home appliances and electronic items represented by the following, who are its suppliers:

Radio Corporation of America, receiving and television sets, tubes, radio parts, Victor records and accessories; Bendix Home Appliances, Inc., automatic home laundries, ironers and clothes driers; Norge Division of the Borg-Warner Corp.; refrigerators, electric and gas ranges, washers, space heaters, water coolers, etc.; Eureka Vaccum Cleaner Co., vaccum cleaners and cordless electric irons; Domestic Sewing Machine Co., sewing machines; American Central Manufacturing Corp., steel kitchen cabinets and sinks; Westinghouse lamps, all types. Various makes of electric table appliances, industrial sound equipment and radio parts will be carried and a service department maintained supplying parts and service for all products represented.

Electrical Equipment 4th on RFC Surplus List

Communication and electronic equipment, valued at $44,282,000, constitute the fourth largest class of material surplus held by the RFC.

Electronic tubes, which cost $15,989,000, and electronic equipment components and sub-assemblies, with a cost of $14,304,000, are the two major items on communication and electronic surplus category.

ARTHUR C. HOEY, Jr., is the new Virginia representative for the Pole Line Hardware Division of Oliver Iron and Steel Corporation, Pittsburgh. Until recently Hoey was with General Electric at Bloomfield, N. J., and before that with Sangamo Electric Company.

Westinghouse Acquires B. F. Sturtevant Co.

Acquisition of the B. F. Sturtevant Company, Boston, Mass., pioneers in the design and manufacture of air handling and processing equipment, has been announced by A. W. Robertson, chairman of the Westinghouse Electric Corp.

The Sturtevant Co. becomes a wholly-owned Westinghouse subsidiary, operating as the B. F. Sturtevant Company, a division of Westinghouse Electric Corp. Management of the Sturtevant Co. was assumed by Westinghouse around the first of September.

"The headquarters of the expanded Westinghouse Air Conditioning activities will be located at Boston," said Mr. Ellis L. Spray, vice president in charge of the Air Conditioning and Elevator Divisions of Westinghouse.

From Elec. Air Heater To Electronic Corp.

Electric Air Heater Co. of Mishawaka, Indiana, makers of Electromode Electric Unit Heaters, has recently announced change of name to Electromode Corporation. The company's products include besides unit heaters,—heaters for U. S. Submarines, Army Signal Corps Trailers, as well as a line of portable and built-in heater units for domestic use.

[NUMBER THREE OF A SERIES]

Standards of Merchandising

TO CREATE new and profitable markets for Electric Door Chimes, Rittenhouse has been developing new sales ideas built upon tried standards of merchandising, for its radically new door chimes soon to be announced.

▸ In association with one of the country's leading marketing research organizations, Rittenhouse devoted several months to procuring practical, up-to-the-minute sales facts for future merchandising plans. This Rittenhouse-sponsored, coast-to-coast survey among wholesalers, dealers and consumers will enable Rittenhouse to provide an array of powerful, hard-hitting, sales promotion factors designed to make Rittenhouse Chimes the fastest-selling, profit line in the country.

Rittenhouse Promotion and Merchandising Plans Include:

1. A *clearly defined* sales procedure for distributors and dealers based upon facts obtained from its national surveys.
2. Famous Norman Bel Geddes chime designs combined with new chime mechanisms *never before available.*
3. *Unexcelled tone richness,* in models to meet every consumer budget.
4. Artistic and compelling Chime Display Boards that will stop prospects on sight. *New in construction—new in display beauty and appeal—new in demonstration effectiveness.*
5. *Expertly created* full-color Window and Counter Displays.
6. Illustrated, color Dealer-Consumer Literature.
7. The largest national magazine and Sunday newspaper magazine advertising support ever put behind the sales promotion of door chimes. And it's *double-barrelled in action!* Big-circulation Sunday Newspaper Magazines for *immediate* sales volume in *heavily populated centers*—plus an imposing group of top-ranking National Magazines to tell the story of Rittenhouse superiority *to millions*—wherever they live.

▸ These *are just a few* of the reasons why it will pay the far-sighted wholesaler and retailer *to Plan Profitably with Rittenhouse.*

Rittenhouse

Tomorrow's Better Door Chimes

THE A. E. RITTENHOUSE COMPANY, INC., HONEOYE FALLS, N. Y.

Here's a soldering iron with . . .

HEAVY POWER (225 WATTS)

LIGHT WEIGHT (14 OUNCES)

made possible by

KWIKHEAT'S BUILT-IN THERMOSTAT

★ HEATS IN ONLY 90 SECONDS
★ MAINTAINS PROPER HEAT
★ CAN'T OVERHEAT
★ LESS RETINNING NEEDED
★ TIPS LAST LONGER
★ COOL, SAFE HANDLE
★ LIGHT WEIGHT

The Kwikheat Soldering Iron has ample reserve power for your soldering jobs—225 watts held in check by a thermostat built right into the iron*—maintaining ideal temperature for perfect soldering—preventing overheating (which causes deterioration in other irons)—prolonging life of tips and eliminating the need for constant retinning. Besides these big advantages, the Kwikheat Iron is **hot**, ready to use only 90 seconds after plugging in. It is extremely light (14 ounces), well-balanced, and has a safe, cool handle. No wonder Kwikheat is a sensation wherever it is used. You will want to stock this "hot" item. With one tip—**$11.00**, list.

6 INTERCHANGEABLE TIP STYLES

#0 $1.25 · #1 $1.25 · #2 $1.25 · #3 $1.25 · #4 $1.75 · #5 $1.25

*patented

VANATTA

kwikheat

THERMOSTATIC SOLDERING IRON

A Division of Sound Equipment Corp. of Calif. • 3903 San Fernando Rd., Glendale 4, Calif.

NEW SALES DIRECTOR for the home appliance division of Hamilton Manufacturing Company, Two Rivers, Wisc., is W. A. Friedrich. He was formerly Pacific Coast representative for the Charles Bruning Company before joining Hamilton in 1939 as field representative in California.

Wiremold Plans Contest On Use of Its Product

Among the several post-war plans announced recently by D. Hayes Murphy, president of the Wiremold Company, is a 'How to Use It" contest open to all electrical contractors and electrical maintenance men. Prizes of $500, $250, and $100, are being offered to the winners, plus $25 for any other entry which is published.

In announcing the contest, Mr. Murphy stated: "We want to compile an accurate record of the best of these (Wiremold) applications to form a pool of experience for our post-war planning and current advertising. . . "

Peace Time Orders Received

The company announced last month that it has received orders from automotive manufacturers for auto cable housing that are larger than any received before the war. These orders give the company's textile division a backlog of many millions of feet which are expected to keep it busy well into 1946. The metals division was said to have the largest backlog in its history.

In the post-war plans of the company, it was stated that no changes in methods of distribution were contemplated. Every item in its line will be improved, Mr. Murphy stated, but without radical change. No plans are being made for the company to go into the lighting fixture business.

Samson United Buys Out "Jiggers"

Samson United Corporation, Rochester, N. Y., has purchased the entire corporate assets of Jiggers, Inc., Chicago, Ill., manufacturers of a new-type soldering device, according to announcement from D. D. Gillespie, Samson United president.

A building has been leased at 131 Gould St., Rochester, to be equipped as a pilot plant for the manufacture of "Jiggers." Design and construction of machinery are now under way with initial shipment expected by March, 1946, Mr. Gillespie said.

Eoff Electric Co. Takes New Lines

The Eoff Electric Co., Salem, Ore., has taken the distributorship for the new Monitor set-up of electric appliances for the Portland trade area, which comprises Oregon, southern Washington and northern California. Eoff has a branch office and warehouse at Portland, Ore., under G. A. Charlston, manager, and at Eugene, Ore., under A. R. Wheeler, manager.

The Eugene office was opened recently to carry a complete line of stock paralleling that in Salem. Before that, Wheeler had acted as resident salesman. He now has facilities of one floor and basement, 35 by 85 ft. He is assisted by Harold Pitcher and three other employees.

At Salem, the company has also been increasing its physical facilities, having taken over the adjoining building, owned but which had previously been rented. This building is 35 by 70 ft., two stories and basement and practically doubles their former space.

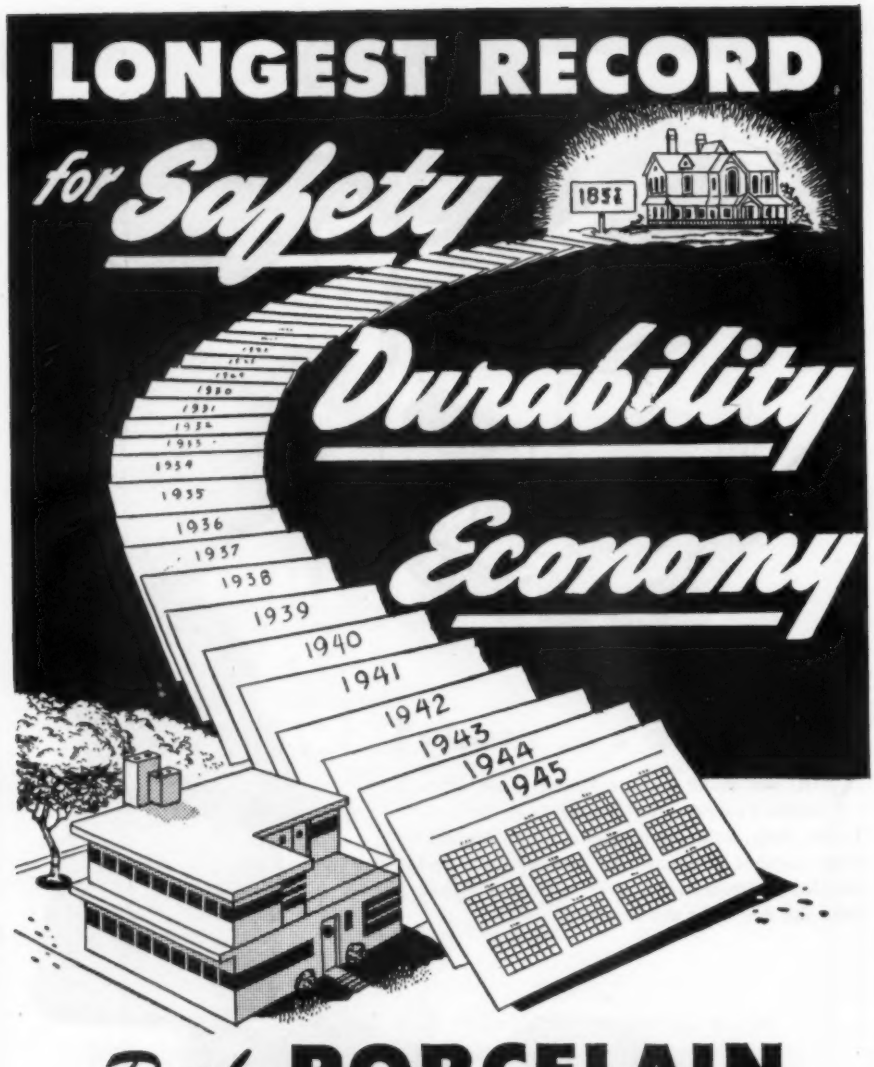
Asel C. Eoff and Ellis F. Von Eschen are the two owners of the business, which was established in 1920.

Hotpoint To Offer Automatic Dishwasher

A fully automatic dishwasher that fits under the kitchen sink and operates without soap to spray, rinse, wash and dry dishes at one touch of the button will be offered in the future by the Edison General Electric Appliance Company.

The machines are to be built into kitchens with all plumbing and drain connections concealed and permanently connected. The water conditioner replacing soap is automatically injected during one of the washing cycles. The drying is accomplished by rapid circulation of air heated by an electric unit, and forced by a blower.

From one . . . many!
YOU can make many different kinds of toast with a Proctor—the "toaster with a crisper!" Light, dark, soft, crisp, Melba . . . an almost infinite number of kinds. No wonder the Proctor completely automatic toaster was a newsmaker from the day it hit the market!
Good post-war numbers!
And speaking of numbers, Proctor has more newsmaking features on tap . . . ready for post-war appliances. Plan now to stock and sell the "good numbers" in Proctor's great post-war line!
Meanwhile, keep on buying WAR BONDS.
PROCTOR
PROCTOR ELECTRIC COMPANY, DIVISION OF PROCTOR & SCHWARTZ, INC., PHILADELPHIA 40, PENNA.
NEWSMAKER IN APPLIANCE MERCHANDISING

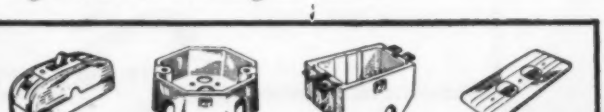


Push **PORCELAIN**

FOR GREATER SALES VOLUME!

● In the past two decades billions of knobs alone have been used in electrical wiring—proof of the wide acceptance of the Knob and Tube wiring method. This system has been improved and perfected in the PORCELAIN Protected Wiring System which is now recognized as the most advanced and outstanding wiring method.

Only the non-metallic way has a record of nearly fifty years for safe, economical, durable service. Ask your friendly Electrical Inspector about the safety and long-life features of knob-and-tube wiring. Write for wiring manual.



PORCELAIN PRODUCTS, Inc.
FINDLAY, OHIO

Wire Today for Tomorrow's Load

Wholesaler On Reconversion Council

Ross Hartley, president of the Electric Corporation of California, has been appointed a member of a Council of 50 leading business men and civic leaders of Los Angeles, to tackle problems relating to the employment of released war workers. The Los Angeles Chamber of Commerce, which sponsors the Council will appropriate $10,000 from its current budget reserve fund to get the program under way.

Jim Gaynor Appointed Mitchell Representative

The Mitchell Manufacturing Company of Chicago, Illinois, has appointed James V. Gaynor as sales representative on industrial, commercial and residential lighting for the Minneapolis territory. Mr. Gaynor has had more than 12 years experience as an illuminating engineer, salesman and executive. He was associated with the Commonwealth Edison Company of Chicago for 9 years as an illuminating engineer and lighting salesman, and during the war has been in charge of electrical engineering and maintenance of the U. S. Navy Shipyard at Seneca, Ill.

Mr. Gaynor is also to act as sales representative for the Tru-Air Ultraviolet Products Company in the sale of bactericidal equipment for the same territory, with the exception of the state of Iowa.

New Method For Hooking Up Cables

A new method in hooking up aluminum cables has been announced to the public by The Thomas & Betts Company and is being told in an illustrated bulletin (#27) now available.

Because the manufacture of aluminum cable was restricted to the uses of the aircraft industry only, the widespread publication of this method has not been made before.

The bulletin explains the hexagonal features of the connectors. The lugs are readily installed in a special tool that squeezes the barrel of the connector onto the cable simultaneously from six sides. This all-around pressure provides a long area of contact and maintains it without damage to the strands. The simple installing operation scrapes off the non-conductive aluminum oxide from the cable and instantly seals the insulation collar of the connector against future oxidization.

OSCAR C. SCHMITT, newly-elected president of the Emerson Electric Manufacturing Company, St. Louis. He started in the company's advertising department in 1910, and from 1919 to 1927 traveled as salesman for the company's line of fans and motors. He has been in executive positions since 1927.

Crosley's Executive Personnel Reorganized

Reorganization of the executive personnel of the Crosley Corporation following transfer of control of the company to the Aviation Corporation has been effected at meetings of the Corporation directors.

Irving B. Babcock, president of AVCO, was elected president of the Crosley Corp., a controlling interest in which was acquired by this company in a transaction involving a payment of over $12,000,000.

Raymond C. Cosgrove, vice president and general manager of the manufacturing division and James D. Shouse, vice president in charge of the broadcasting division, will continue in their respective positions and also remain as directors.

Scott Barlow Joins Sylvania Staff

Paul S. Ellison, director of advertising and sales promotion of Sylvania Electric Products Inc., has recently announced the appointment of Mr. Scott Barlow as editor of the "Sylvania News," and as assistant to Mr. H. G. Kronenwetter, advertising production manager of the Radio Tube Division.

Mr. Barlow will make his headquarters at the Sylvania New York office.

Time Tested OAMCO Reflectors for Modern FARM LIGHTING

The complete line of Overbagh & Ayers Farm fixtures and reflectors are engineered to more than meet the lighting requirements of all indoor and outdoor farm working areas. Designed and constructed to withstand hard usage, these units will deliver long service under the most severe conditions. Send today for our Farm Light Bulletin #107.

YARD LIGHT FIXTURE

Consists of: cast wall flange, ½" conduit stem, porcelain enamel steel reflector, porcelain socket, lag screws and wire cut to right length.

SHALLOW DOME REFLECTOR

Available in either porcelain enamel or synthetic enamel finish, green outside, white inside. Type A neck for 2¼" shade holder. Made in 4 sizes for 60, 100, 150 and 200 watt lamps.

DEEP CONE REFLECTOR

Made of steel finished in synthetic enamel, green outside, white inside. Furnished in 3 sizes, 8", 10", & 12" diameters.

HANDY OUTDOOR FLOODLIGHT

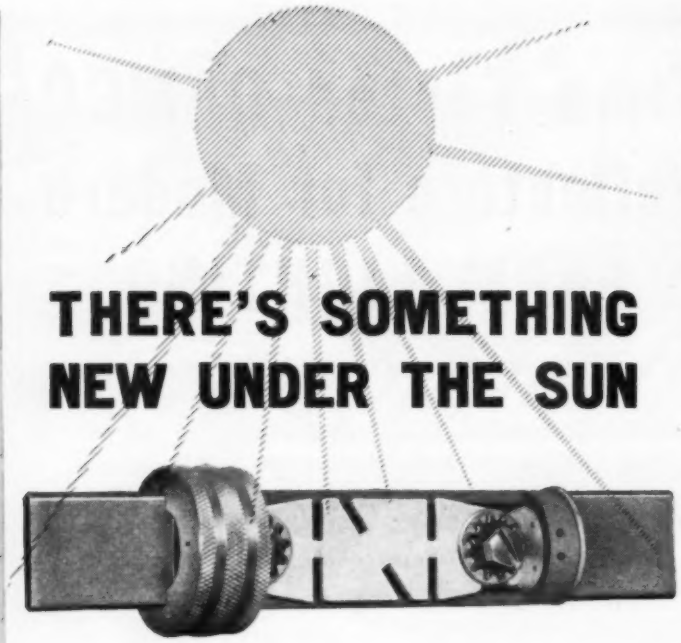
Consists of: Porcelain enamel steel, green outside, white inside, adjustable bracket allows the reflector to swing in any horizontal or vertical position. Wired with 5 feet of cord & plug. Furnished with or without clear glass cover.

RIGHT LIGHT SINCE 1902

OVERBAGH & AYRES MFG. CO.

MEMBER OF THE R L M STANDARDS INSTITUTE

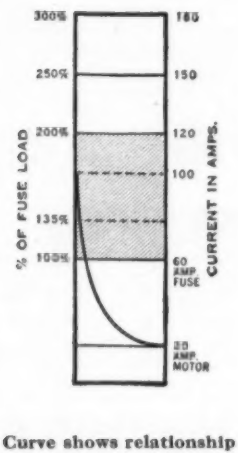
411 SOUTH CLINTON STREET • CHICAGO



THERE'S SOMETHING NEW UNDER THE SUN

BALANCED LAG

by PIERCE



Curve shows relationship between starting current of normal squirrel-cage motor and load on fuse. Note how "peak" falls within shaded area.

Pierce engineers' new link is the first link purposely designed to obtain lag-balance between "overload" and trouble zones, by placing more of the lag down in the working "overload range" of the link.

"Overload range" falls between 100% and 200% of fuse rating, where the new Pierce B/L links hold 135% fuse-loads 3 to 5 times longer than any other well-known lag-links tested, with similar balance throughout the "overload" range.

SOLD THROUGH LEADING DISTRIBUTORS

PIERCE RENEWABLE FUSES INC.
211-219 HERTEL AVENUE
BUFFALO 7, NEW YORK

Launches Special Lighting Program

A plan to spur lighting promotion activities for the home this fall has been announced by Herbert E. Plishker, manager of the Westinghouse Lamp Division's advertising and sales promotion department.

The program is spearheaded by a booklet now available to utilities throughout the country. "Its use," Mr. Plishker suggested, "will enable utilities, if they wish, to take advantage of a tie-in with Westinghouse national advertising and sales promotion during October."

Keyed to the now-famous ad headline, "Eyes Are Rationed, Two to a Lifetime," the new lighting promotion includes a booklet incorporating the same theme and called "Eyes Are Rationed."

"This booklet," Mr. Plishker said, "is filled with many pictures of the eye-catching youngsters who have been appearing in our national advertising and sales promotion material." Its goal is to help make the home-maker aware of the need for better lighting."

"During October," Mr. Plishker added, "we will repeat our "Eyes are Rationed" ad and the same headline will appear in all display material used by Wesitnghouse dealers throughout the country."

General Mills, Inc. To Make Appliances

Plans for production of home appliances by General Mills, Inc., are underway at the company's mechanical division at Minneapolis. Research and post-war planning groups of the company have been working out during the past three years a program for peace-time production of a new family of household appliances, including electric irons, pressure saucepans, and coffee-makers.

Developmental research has already been completed on these three items, and other appliances are in various stages of development.

Under the direction of Roscoe Imhoff, mechanical division's vice-president in charge of appliance sales, and sales manager John A. Sullivan, distribution policies have been formulated and sales territories established. It is planned to have district managers take over their territories about November 1. Shortly after that distributors will be interviewed and appointed.

Service With a Purr

The electric motor, converting into service 90% of the energy supplied it, is rated five times as efficient as the steam engine, three times over the automobile motor.

JOINS the staff of Operadio Manufacturing Co. as a sales engineer. C. H. "Cut" Carey was with the Crosley Corporation for the past fifteen years. In his new job he will have charge of setting up distributorships in the Michigan-Ohio area, and will locate in Cleveland.

National Electric Appointments and Changes

The return of two former employees from service with the Armed Forces was announced by National Electric Products Corporation of Pittsburgh. William C. Robinson, Jr. has again assumed the vice presidency of the company after serving eighteen months in the Pacific area as a Lieutenant in the U. S. Navy. Dudley W. Rice has rejoined the organization as manager of the Surface Raceway Department. For several years Mr. Rice was a Captain in the Army Air Forces.

Vice-President Robinson announces that George C. Richards, formerly a licensor's agent, has been appointed eastern district sales manager. He will make his headquarters at 9 Rockefeller Center, New York City. G. D. Wells now represents the company in Baltimore, Md. Mr. Wells was previously associated with the Westinghouse Electric Corp.

Joins GE Salt Lake

C. J. Vacher, former Ogden division supervisor of commercial sales for Utah Power & Light Co., has resigned to become domestic lighting expert for General Electric Co. in Salt Lake City, Utah. Mr. Vacher had been with the power company since 1929.

E. E. Brazier, district manager of the company has announced the addition of D. R. Smock and R. D. King as territorial salesmen.

How a toaster looks at the postwar dealer market!

This under-the-counter slant suggests that, upstairs, a fine bit of "fishing" may be going on. (*Planning* is perhaps a better word.) Many a dealer is doing lots of that these days.

Any way a toaster looks at it, some dealers would gladly bait their sales barb with any kind of merchandise. Others (the smart ones) are out for a heavy catch. They're going after business with Big Ones on the hook.

In the toaster field, that Big One is the "Toastmaster" toaster—the *one* toaster that most customers ask for *by name.* And with good reason.

More "Toastmaster" automatic toasters have been sold than all other makes combined! And far-and-away greater than any other is "Toastmaster" toaster's consistent, persistent national advertising.

If you catch yourself "fishing around," plan to cast your lot with the Big Ones in every line. And in big-volume traffic appliances—that Big One is the "Toastmaster"* toaster.

TOASTMASTER *Products*

*"TOASTMASTER" is a registered trademark of McGraw Electric Company.
Copr. 1945, TOASTMASTER PRODUCTS DIVISION, McGraw Electric Co., Elgin, Ill.

Mr. Tops, the Paragon symbol of top quality.

TOP QUALITY POULTRY HOUSE TIME CONTROLS

Model PS

TO insure Fall delivery place your order now for Paragon Top Quality Poultry House Time Controls. Paragon "PS" models are designed for both morning and evening lighting, with dimming period for roosting. The Paragon Model 301 is designed essentially for morning lighting only. It is a heavy duty, industrial type time switch adaptable to poultry house lighting. It is truly a superior instrument of high quality and low price. All Models are synchronous motor operated and available . . . Without priority ratings.

Send for Authoritative Bulletin

Paragon has prepared a 4-page, 2 color bulletin containing authoritative information relative to poultry house lighting control . . . location of lights, selection of light control switches, etc. It summarizes the recommendations of leading poultry authorities and gives complete data regarding the wide range of Paragon poultry house time switches... Also, attractive envelope stuffer available in quantities for your distribution.

Model 301

PARAGON ELECTRIC COMPANY
715 Old Colony Building
Chicago 5, Illinois

Paragon Chicago
BUILDERS OF ELECTRICAL EQUIPMENT SINCE 1905

Elec. Mfgrs. Contributed To Work On Atomic Bomb

Among the many manufacturers who contributed to the development of the history-making atomic bomb, were at least two in the electrical field. Both General Cable Corporation and General Electric Company have released data outlining their respective contributions to the once highly-secret project.

General Cable engineers were called upon to design a special product that would meet unprecedented requirements, and made of many different components vastly different than any encountered previously. After several months research work, the design was accepted and the product manufactured. Following tests, it was shipped under guard and installed at the Oak Ridge, Tenn., plant.

Charles E. Wilson, president of the General Electric Company, announced that his company's contribution had been two-fold. First, that of the company's laboratory scientists, some of whom several years ago pioneered in isolating U-235 from the Uranium atom, and secondly, the development and production of new and important equipment necessary in the manufacture of the new bomb.

Personnel Changes In Southern California

Changes effecting the sales organization of the Westinghouse Electric Supply Co. in the southern California area have been announced.

W. A. Matzinger, "Matty" to the Los Angeles trade, has been appointed district apparatus and supply manager for the southern California district, the position vacated some months ago by L. G. Berger, when he was moved up to assistant district manager under B. S. Manuel.

Oliver Jensen, recently a major in the Marine Corps, has been appointed sales representative to take over "Matty's" territory. He is a graduate electrical engineer with ten years of electric experience in addition to five years' service with "Wesco," in Fort Wayne, Ind.

Due to an urgent request for the services of Everett Isenhower by the radio division of the Westinghouse Electric Corporation, he has been released to that branch, where his activities will be confined to the Pacific Coast area, with headquarters in Los Angeles. W. W. Bell has been transferred to the position he had held, that of district appliance manager for the southern California district. Mr. Bell is well fitted for this work because of his merchandising background and his recent interim work as district apparatus and supply manager.

Personnel Changes At Portland, Ore.

A number of changes have recently been made in the organization of the Stubbs Electric Co., Portland, Ore. Hugh M. Hanna has been made manager, after having been with the company 21 years.

Hugh M. Hanna

During the last year, he has been purchasing agent, in place of Major V. Cowan, still in the service.

Fred Luce, formerly of the Westinghouse Electric Supply Co. has been made secretary-treasurer of the company, a position formerly occupied by R. E. Rogers.

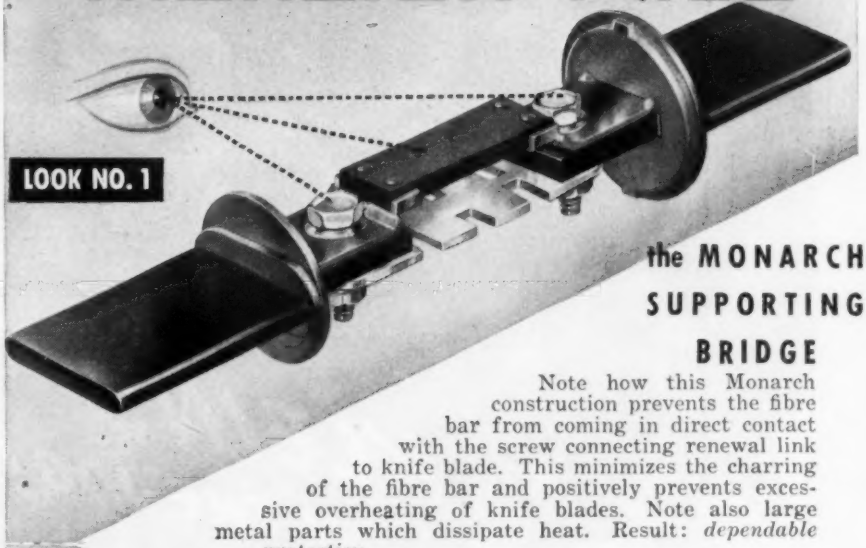
These all came some months subsequent to the departure last fall of S. W. Peterson, for many years associated with Mr. O. B. Stubbs and manager of the company. He sold out his interest and has retired at Laramie, Wyo.

Wesco To Distribute Operadio Flexitone

Awareness of the large sales potential for intercommunication equipment has prompted Westinghouse Electric Supply Co. to select Operadio Flexitone units for national distribution.[s] The Flexitone line is now being made available to all Wesco branches, under an agreement recently concluded between the Operadio Commercial Sound Division and the Apparatus and Supplies Division of the Westinghouse organization.

The new distribution agreement will not interfere with presently established Flexitone distributors, since Westinghouse will handle the line on an open basis, according to F. D. Wilson, manager of the Operadio Commercial Sound Division. Established Flexitone distributors will continue to handle the line under existing arrangements.

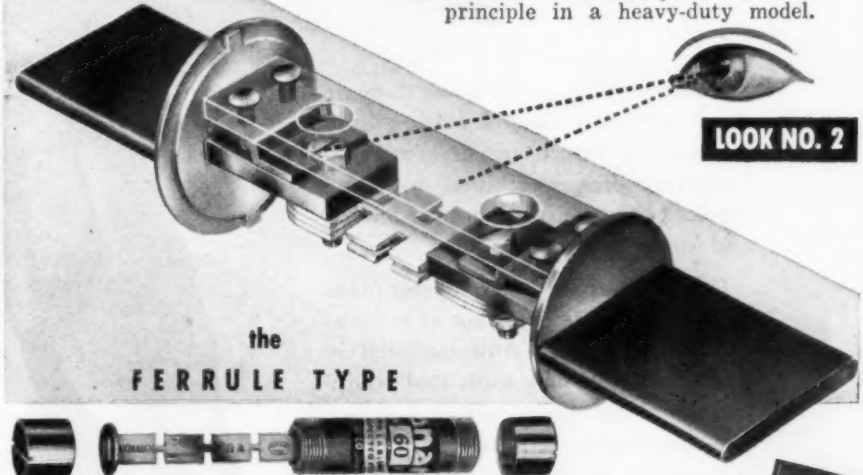
Take a TWO-WAY LOOK AT THE Monarch Fuse



the MONARCH SUPPORTING BRIDGE

Note how this Monarch construction prevents the fibre bar from coming in direct contact with the screw connecting renewal link to knife blade. This minimizes the charring of the fibre bar and positively prevents excessive overheating of knife blades. Note also large metal parts which dissipate heat. Result: *dependable protection.*

"Look No. 1" illustrates this construction in a lighter-duty Monarch knife-blade fuse and "Look No. 2" shows adaptation of this principle in a heavy-duty model.



the FERRULE TYPE

Specify Monarch Fuses for improved FUSErvice

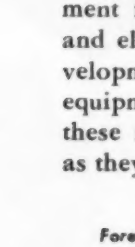
MONARCH FUSE CO., LTD.
118 E. FIRST ST., JAMESTOWN, N. Y.

• There's a mighty job to be done on the power and communication lines in America—improving present facilities—extending new lines to bring service to new users—both domestic and industrial.

Utility companies are laying plans now to start this program as soon as conditions permit. And included in their plans are new tools and equipment for the thousands of linemen and electricians required by this development. Klein pliers and Klein equipment will be on the job serving these men in the electrical industry as they have "Since 1857."

ASK YOUR SUPPLIER

***Foreign Distributor:* International Standard Electric Corp., New York**



This book on the care and safe use of tools will be sent on request.

Since 1857

Mathias KLEIN & Sons

Established 1857 — **Chicago, Ill., U.S.A.**

3200 BELMONT AVENUE, CHICAGO 18, ILLINOIS

Vaculator Honored In Telegram from Navy

Men and women of the Hill-Shaw Co., Chicago, Ill., makers of Vaculators, were thrilled recently to learn the part the company's equipment played aboard the destroyer, USS Laffey, during a battle against hordes of Jap suicide planes off Okinawa. This information was given the Hill-Shaw Co. in a telegram from Rear Admiral C. H. Woodward. The telegram read:

"A report from the USS Laffey, which recently won a spectacular battle against swarms of Jap suicide planes off Okinawa, states that an electric coffee maker of your manufacture was one of the few pieces of equipment in the ward-room that remained operational after a bomb exploded in the compartment.

"The report states that the coffee maker proved a valuable asset in providing hot coffee for the crew as they fought heroically to save their crippled ship. The Navy extends thanks for your excellent equipment."

Trescott Named WESCO REA Representative

Appointment of J. B. Trescott to the Westinghouse Electric Supply Co. headquarters organization as St. Louis Rural Electrification Authority representative has been announced in New York by David M. Salsbury, vice president and general manager of WESCO.

Mr. Trescott will be in charge of negotiation of contracts with the REA, leaving his position as midwest district apparatus and supply manager. On administrative matters he will report to W. B. Meek, district manager at St. Louis, and on sales matters to M. P. Nickerson, general apparatus and supply manager at headquarters office in New York.

Personnel Changes At Okonite

The Okonite Company of Passaic, N. J., announces the following changes in personnel:

E. J. Garrigan, former vice president and factory sales manager, has been appointed vice president in charge of sales and will be responsible for directing all sales activities of the Okonite Company and its Hazard Insulated Wire Works Division, as well as those of its affiliate, The Okonite-Callender Cable Co., Inc.

C. E. Brown, Jr., formerly vice president in charge of the company's Washington, D. C., office, has been appointed vice-president and general sales manager to coordinate the activities of the executive offices in Passaic, N. J., with the company's branch offices.

ANNOUNCES production of sewing machines. L. E. LeVee, vice-president of the Free Sewing Machine Company, Rockford, Ill,, has announced that production has been resumed on the Free-Westinghouse and the New Home lines of sewing machines, and plans are underway for expansion of facilities.

GE Honors Ex-President With Scholarship Fund

To assist in higher education and fundamental research work in scientific and industrial fields, a fund of $400,000 has been set aside by the directors of the General Electric Company to be known as the Gerard Swope Foundation. Mr. Swope served as president of GE for more than 19 years, from May, 1922, until the close of 1939, and for an additional two years in 1942-44 when he returned to head the company while C. E. Wilson, now again president, resigned to assume the job of executive vice chairman of the WPB.

The directors announced that the new foundation was created "as an expression of appreciation of Mr. Swope's great contribution as the leader and inspiration of the General Electric Company for so many years, and as a means of making this appreciation of enduring and constructive benefit to the company and to the electrical industry."

Concerns Consolidate As Reeves-Ely Labs

Under the name "Reeves-Ely Laboratories, Inc.," the following subsidiary companies and operating divisions have been consolidated: Reeves Sound Laboratories, Hudson-American Corporation, American Transformer Company, The Winsted Hardware Manufacturing Company, and the Waring Products Corporation.

Randal Young, vice-president and general manager, has announced that executive headquarters are in New York City.

Uncle Sam discourages the home printing press method, but by standardizing on HOLDENLINE CHAN'L-RUN Industrial Lighting Equipment you can make real money. HOLDENLINE CHAN'L-RUN features represent sound fluorescent engineering that sells easily and *stays sold.* And that combination spells profit for you.

SOLD ONLY THROUGH WHOLESALERS

HOLDENLINE COMPANY

Pioneers in Fluorescent

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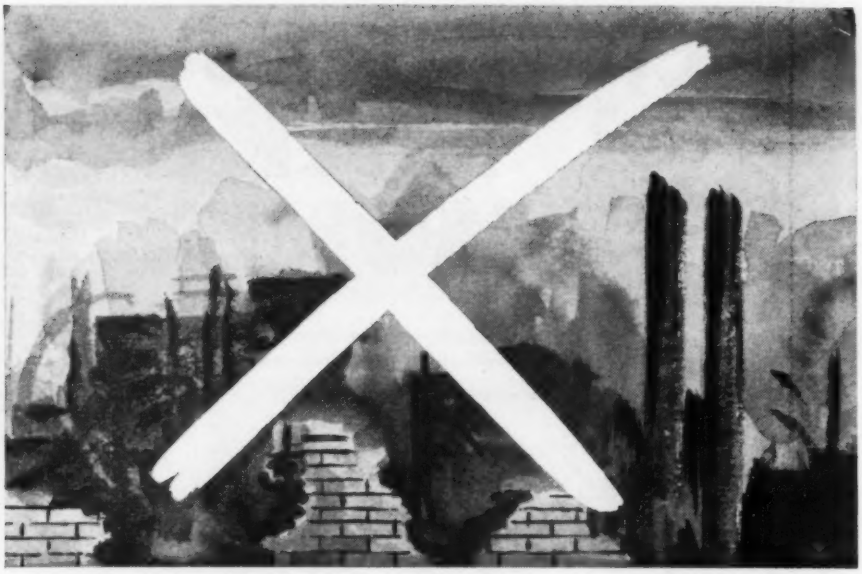


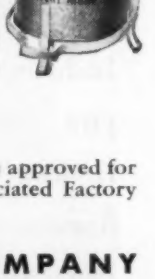
Marks The Spot

Careless fires . . . from spontaneous combustion, stray sparks, or through the use of improper containers for flammable liquids or oily waste can be practically eliminated when Justrite Safety Products are on the job. Justrite Safety Gasoline Cans and Oily Waste Cans provide maximum protection for men and equipment and at a minimum cost.

SAFETY GASOLINE CAN

The safety approved can for the handling and storing of flammable liquids. Equipped with easy, natural opening devices. Cap closes automatically as soon as released. Wide range of sizes. Small size cans are equipped with "Trigger" handles . . . large size with "swing" handles. Body made of heavily coated 24 gauge steel, double seamed and soldered. Nozzles and handles are malleable iron, electrically tinned. Finish is of high gloss red enamel . . . baked on. Convenient to fill, pour and carry.

OILY WASTE CAN



A portable can that increases shop efficiency and reduces fire hazards. Especially made to hold oily, dangerous, grimy waste rags and all kinds of flammable material. Equipped with or without foot lever opener. Top closes automatically. The body is made of No. 24 gauge, galvanized sheet steel double seamed and soldered. Legs and handles are 1/8" band iron. Rugged . . . efficient . . . economical . . . safe.

Approved for Safety . . . Justrite

The Justrite Safety Gasoline Can and the Oily Waste Can are approved for safety by Underwriters' Laboratories, Inc. and by the Associated Factory Mutual Fire Insurance Companies and so marked.

JUSTRITE MANUFACTURING COMPANY
2063 N. Southport Ave., Dept. A-4, Chicago 14, Ill.

JUSTRITE *Safety Products*

SAFETY CANS · FILLING CANS · OILY WASTE CANS
APPROVED SAFETY ELECTRIC LANTERNS

Oregon Wholesaler Adds Appliances

The C. & H. Supply Co. branch in Portland, Ore., has taken over the building adjoining, which is 75 by 100 ft., two stories and basement. This gives the approximately 8000 sq. ft. more space.

In part, this increase was necessary because of the fact that the C.&H. Supply Portland, which operates on an independent set-up from the Seattle, Glendale, San Francisco and Wichita houses, is embarking in the home electric appliance business on a wholesale basis and on a large scale. Both radios and household major appliances will be carried, including deep freeze equipment. This department will have its own salesmen and is headed by E. I. Snyder, formerly with the Grayba Electric Co.

G. E. Crane, manager of the C & H Supply Co., Portland, Ore., left and F. F. Hill, assistant manager, and E. I. Snyder, manager of the appliance department.

The addition of the appliance department will mean no diminution in the activities of the industrial supply end of the business, which will major as before in pneumatic and electric tools, cutting tools and mechanical rubber goods. G. E. Crane is manager of the Portland house in all departments. Ralph Von Noy, filling a recently created position as general manager of all houses, will have his headquarters in the Portland office.

GE Promotes Dunbar and Schuler

Announcement has been made by A. L. Scaife, advertising and sales promotion division manager of the General Electric Company's appliance and merchandise department, that J. W. Dunbar, former head of product service and sales promotion advertising, is now in charge of advertising and sales promotion of all major appliances.

Responsible for all appliance and merchandise department publicity is Stanley C. Schuler, who has moved up to Bridgeport from the New York office where he was editor of the GE Monogram and assistant special publicity representative.

Murray to Manage GE Conduit Sales

D. J. Murray has been appointed manager of the newly created Conduit Products Division of the General Electric Co., it has been announced by H. L. Andrews, vice-president in charge of the appliance and merchandise department.

Murray's career with General Electric has zigzagged from Denver to Bridgeport to Richmond to Boston to Los Angeles and back to Bridgeport. His connection with G. E. was made in 1928, upon his graduation from the University of Colorado. Shortly after, he was made a sales representative and assigned to the Virginia-North Carolina territory. In 1930 he was appointed district representative, with headquarters in Baltimore.

Later, Murray served in Boston and Los Angeles as district representative, and in 1940 he returned to Bridgeport as sales manager of conduit products. It is from this position that he has been raised to his new responsibility.

Jackson Electrical Co. Expands Headquarters

For the past few years, the Jackson Electrical Co. has been working under extreme conditions in cramped space. But now the company is pleased to announce that it has increased its quarters at 900-910 West Van Buren St., Chicago, so that it can better serve the electrical wholesaler.

The company has done considerable research and has developed many new products for the Army. All of these products are going to be available to the electrical wholesaler for his clientele. Jackson Electrical has also developed several new lighting fixtures for REA, such as its yard-lights, its explosion proof fixtures for hazardous locations, and its new and improved weather proof sockets which are now made in aluminum.

Ben Rogers Appointed At San Diego Wesco

SAN FRANCISCO, July 11—Ben Rogers, who for 14 years was manager of the appliance department of the Firestone Stores in San Diego, Calif., has been appointed representative for Westinghouse radios in that city, according to announcement from E. W. Isenhower, district merchandise manager of Westinghouse Electric Supply Co., Los Angeles.

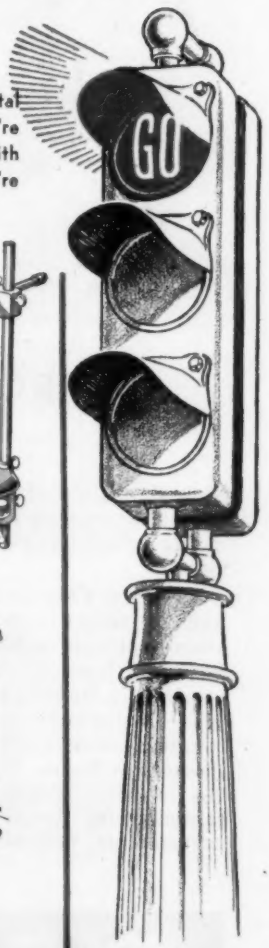
Mr. Rogers will handle the wholesale distribution of the forthcoming Westinghouse radio, traffic appliances, oil burners and oil buring water heaters for both the San Diego and Imperial County territories.

Pioneers in LIGHTING EQUIPMENT Since 1880

Faries

The Green Light says GO!

WE'RE READY . . . with over 60 of the fastest-selling pre-war Lamps and Fixtures



Until now, our facilities have been 100% engaged in vital war production. NOW, with restrictions partially lifted, we're starting production on these "best sellers" in accordance with a carefully worked out "quick reconversion" plan. They're FARIES QUALITY, and competitively priced.

DESK LAMPS, FLOOR LAMPS and INDUSTRIAL BRACKETS

The items shown, as well as many others displayed in the Flyer Catalog, will be available just as soon as raw materials are obtainable . . . some numbers before others. No preference rating of any kind is necessary, although, under the regulations, rated orders must be shipped first. Get your orders in now to be assured of early delivery from our first production run.

Write for New Flyer Catalog

. . . just off the press . . . illustrating the 60-odd "best selling" numbers that are available NOW.

FARIES MFG. CO. DECATUR ILLINOIS

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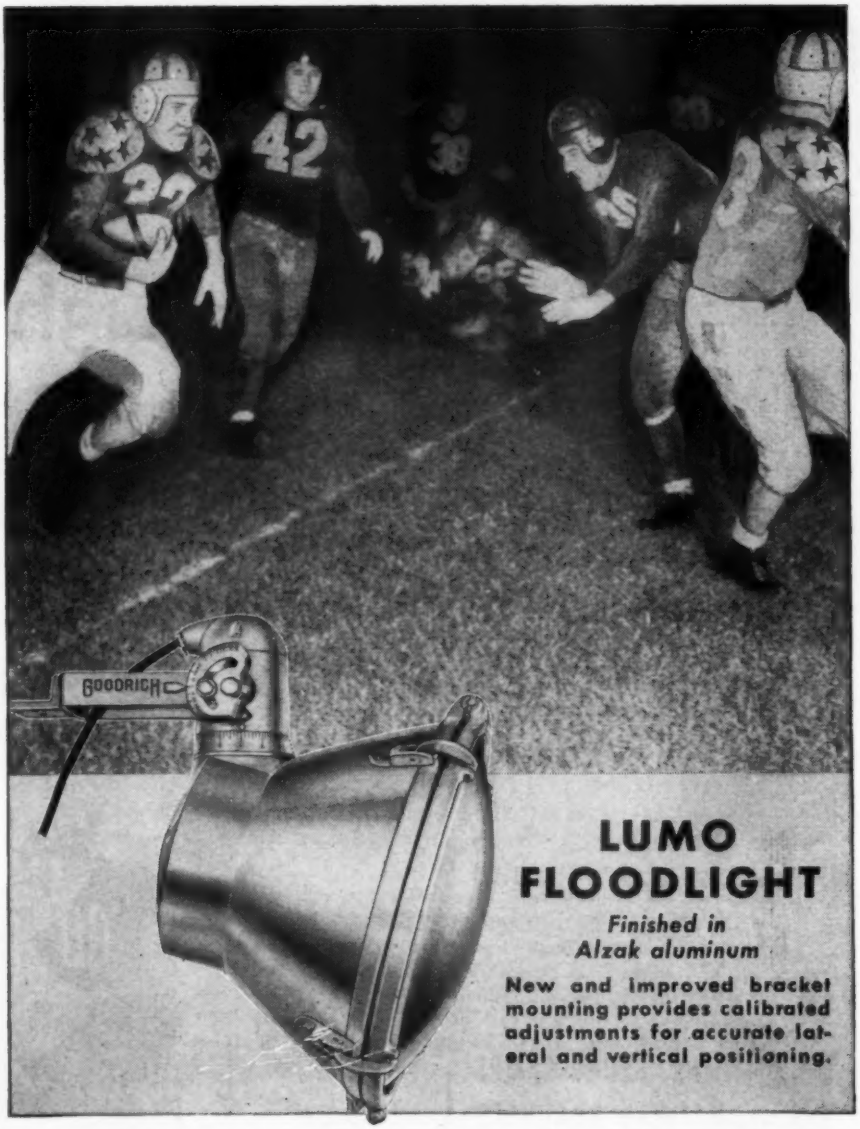

IMPROVED FLOODLIGHTING
for Night Sports

Now, floodlight of large sports areas can be better than ever—and illuminating efficiency more easily maintained.

The new Goodrich Lumo Floodlight, finished in non-corrosive Alzak aluminum, assures a continuous high factor of light reflection. Designed specifically for long range floodlighting—for use individually or in combination—it delivers either a narrow or medium beam. Accurate positioning is easily obtained—and maintained—with lateral and vertical adjustments calibrated in degrees.

When servicing, the floodlight is tipped upwards and back on its hinged bracket mounting. After lamp is replaced or reflector cleaned, it is returned to its exact calibrated setting.

The Lumo Floodlight is available in open style or with watertight, heat-resisting glass lens, for pole or bracket mounting. It is one of many sizes and styles of Goodrich floodlights.

Goodrich illuminating engineers will gladly advise and assist you with your lighting plans, without cost or obligation. Write us.

Sold Through Electrical Wholesalers

GOODRICH
ELECTRIC COMPANY
4600 BELLE PLAINE AVENUE, CHICAGO 41, ILLINOIS

G. DALLAS RAND, appointed Capitol Division Manager in Washington, D. C., for Sylvania Electric Products, Inc., succeeds George R. Sommers who has been transferred to the Pacific Coast.

"Order of Merit" Awards

The Order of Merit, highest honorary award bestowed by the Westinghouse Electric Mfg. Co. upon its employees, has been presented to seven key men at the company's lamp division plant in Bloomfield, New Jersey.

At a ceremony in the plant auditorium, George H. Bucher, president of Westinghouse, presented the award certificates and bronze plaques bearing silver "W's" to:

Robert F. Tucker, assistant to Ralph C. Stuart, manager of the lamp division; William J. Massey, manager of general lamp sales; James W. Greenbowe, manager of the lamp division patent department; Samuel G. Hibben, director of applied lighting; Dr. Charles M. Slack and Dr. John W. Marden, assistant directors of research; and William G. Moran, superintendent of electronic tube manufacturing.

Chilber Promoted At Associated

Dave Chilber, formerly salesman for the Associated Wholesale Electric Co., Los Angeles, has been promoted to the position of sales manager, in place of Elmer Reid, who left the organization to go with Roy M. Butcher, electrical contractor of San Jose, Calif.

Harvey Lee, a new outside salesman for Associated, was formerly in a position with the government and also in the service of the armed forces.

James Cobb To Head REA Loans Division

James R. Cobb has been appointed assistant chief of the REA Applications & Loans Division in charge of the agency's power utilization program. He is in charge of consumer development activities and will direct work in connection with wiring and plumbing plans and program, loans for consumer installations, and activities concerned with the application and use of electric power on farms, in rural homes and in rural industries.

Mr. Cobb is a graduate of Louisiana State University in electrical engineering and after graduation served with the State Extension Service of Louisiana as assistant agricultural engineer. In that capacity he helped to develop several cooperatives which obtained REA loans and are now in successful operation.

He joined the REA staff in 1937, as a member of the former Utilization Division. After field work in the Gulf States he joined the headquarters staff, where he served as head of the Installation Loans Section and later as head of the Acquisition Section of the Applications and Loans Division.

Philco Dedicates New Television Relay

A 200 mc multiple-relay television network, installed by engineers of the Philco Corporation, Philadelphia, Pa., now connects Washington, D. C., and Philadelphia.

Paul A. Porter, chairman of the Federal Communications Commission, announces that "The opening of this new multiple-relay is an example of the vigor with which the problems of television are being attacked. The creation of networks is the heart of the problem of how to expand television into a nationwide service."

Television radio relays and coaxial cable systems for chaining programs have been in operation for a number of years in this country. The 1940 Republican National Convention held in Philadelphia was brought to television receiver owners in the Metropolitan New York area over the Bell System coaxial cables from Philadelphia to New York—a distance of approximately 90 miles. A two-jump television relay network between New York and Schenectady has also been in operation for a number of years. This network consists of a main hop from the Empire State Building in New York City to a pick-up station on Helderburg Mountain outside Schenectady, and from there to a nearby broadcast transmitter, a distance of approximately 127 airline miles.

Since 1941, Philco engineers have oper-

FEDERAL ELECTRIC PRODUCTS COMPANY, INC.
50 Paris Street, Newark 5, N. J.

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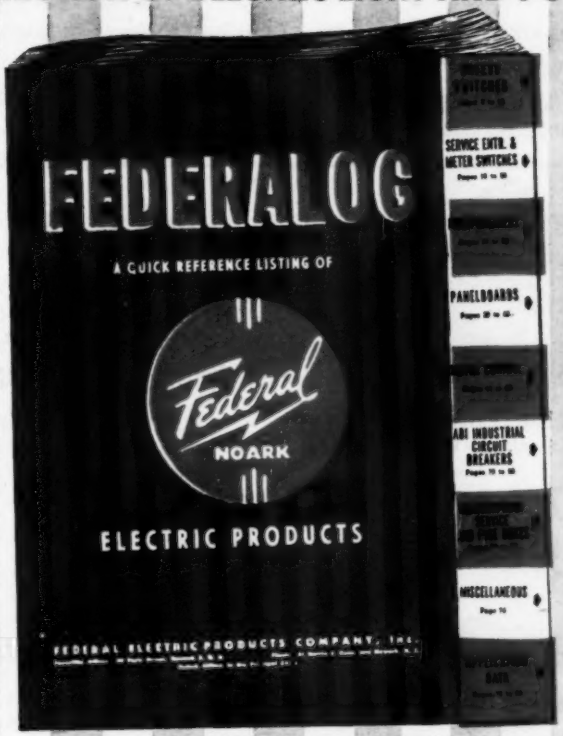
ONE OF TODAY'S MOST IMPORTANT CATALOGS ON EQUIPMENT FOR THE CONTROL AND DISTRIBUTION OF ELECTRIC LIGHT AND POWER



● No data file on electrical equipment is complete without a copy of the FEDERALOG . . . a dependable guide to the newest developments in Motor Controls, Safety Switches, Circuit Breakers, Service Equipment, Panelboards and Multi-Breakers.

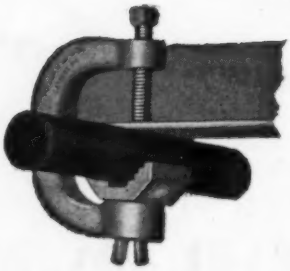
FEDERAL ELECTRIC PRODUCTS COMPANY, INC.

EXECUTIVE OFFICES: 50 PARIS ST., NEWARK 5, N. J. • PLANTS: HARTFORD, CONN. • NEWARK, N. J.

FULLMAN Latrobe PRODUCTS

FLOOR BOXES — WIRING SPECIALTIES

FULLMAN MANUFACTURING CO. QUALITY AT LATROBE SUPREMACY LATROBE, PA.



No. 470 "Latrobe" Pipe or Conduit Hanger

Ever ready and sure grip for hanging pipe or conduit ½", ¾" and 1" to steel beams up to ⅞" thick.

No. 252-R Floor Box

Two-Gang with No. 208 Receptacle in one section. One cover plate with ½ inch, the other with 2-in. flush brass plugs.

Be Ready for the Upswing

Reconversion is underway. Latrobe Products so essential in war production again find increasing fields of service in peace. Check stocks now. Write today for product and price list.

No. 110 "Latrobe" Watertight Box

Iron box body, 3½" round brass cover plate. No. 208 receptable and No. 207 bell Nozzle.

Keystone Fish Wire

Fine quality flat steel wire properly tempered. Furnished in ten sizes.

Bull Dog Insulator Support

Handy and effective for fastening porcelain or glass insulators to exposed steel framework.

No. 284 Nozzle with No. 200 Cover Plate

Duplex Receptacle Nozzle with ½" or ¾" brass pipe extension. Compact, neat in appearance.

FULLMAN MANUFACTURING CO.
LATROBE . . . PENNSYLVANIA

ated a two-stage television relay system between New York and Philadelphia. New York telecasts are relayed by a booster station (now at Mt. Rose, N. J.), to their television station WPTZ in Philadelphia for re-broadcast to the audience in that area.

The new network is considerably more elaborate than others previously demonstrated. It consists of four jumps of approximately 40 miles each from Washington, D. C., to Philadelphia. A total of six transmitters handle the television program as it originates in Washington.

Eureka Absorbs Burner Company

Stockholders of the Eureka Vacuum Cleaner Co. have approved a plan for the absorption of the Williams Oil-O-Matic Heating Corp., Bloomington, Ill., after stockholders of the latter company, meeting in Bloomington, also approved the merger.

The two companies will be merged into a single corporation, and will operate as two divisions of the Eureka Vacuum Cleaner Co. H. W. Burritt, Eureka president, will continue as head of the enlarged company, while William A. Matheson, president of Williams, will become manager of the Williams Oil-O-Matic division of Eureka and a vice-president and director of the parent company.

Westinghouse Lamp Announces 3 Promotions

The appointment of three men to key positions in the Westinghouse Lamp Division, Bloomfield, N. J., is announced by Ralph C. Stuart, vice president in charge of the company's lamp and lighting divisions.

Henry B. Ahlers, who joined Westinghouse in 1924 in the accounting department of the Lamp Division's New York office, was named an assistant on Mr. Stuart's staff. He will handle special assignments in cost and expense control.

Dr. Albert Brann was named manager of the division's specifications and standards department. Dr. Brann, who has been a specifications and standards engineer since 1934, joined Westinghouse in 1918 as a chemist.

Paul B. Tully, who has been supervisor of the lamp engineering and design since 1938, was appointed assistant manager of lamp manufacturing. He joined the company in 1923 as a student engineer and in 1934 was made supervisor of lamp development.

CHARLES C. STOUFFER has been named manager of Suburban Radio and Appliance Company, Orange, N. J., recently-organized for the sale of radio sets and household appliances. Stouffer has been with the sales department of the Public Service Electric and Gas Company for the past fourteen years.

Watco Names Representatives

The Watco Engineering, Inc., Cleveland, manufacturers of standard and custom made fluorescent units, announces the appointment of representatives as manufacturer's agents in the following territories:

H. J. Broks, state of Pennsylvania (except Pittsburgh), Maryland, Washington, D. C., and New Jersey south of and including Asbury Park. William B. Berry, western Missouri from and including Springfield west, Kansas, Iowa, Nebraska, Arkansas and Oklahoma. R. J. Zannoth, state of Michigan. B. H. Schwartz, Virginia, West Virginia, North and South Carolina and Tennessee. C. J. McDaniel, California, Oregon and Washington. A. W. Schmoldt, Ohio and Indiana.

Fluorescent Lamp Exceeds Candle Efficiency by 300%

The fluorescent lamp produces light 300 times more efficiently than a candle and supplies four times as many lumens per watt in the 40-watt size as an incandescent lamp of the same wattage.

80 Test Reports a Second

Airplanes on test flights carry an electronic device that sends 80 readers a second—covering stresses, temperature and speed etc.—to a receiver on the ground.

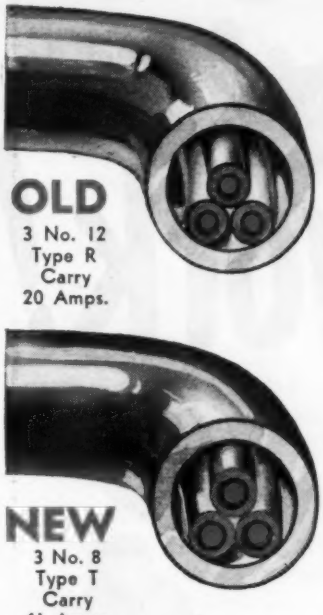
RUBBER POWER CABLES • VARNISHED CAMBRIC CABLES

BUILDING WIRE • SERVICE ENTRANCE CABLE • CRESFLEX NON-METALLIC SHEATHED CABLE • ARMORED CABLE

PERMACORD • LEAD-ENCASED AND PARKWAY CABLES • SYNTHOL WIRES • WELDING CABLES • SHIPBOARD CABLES

See how

CRESCENT SYNTHOL TYPE T



Permits DOUBLE THE AMOUNT OF COPPER in Existing Raceways

Illustration Shows 1/2" Conduit

Under present conditions there is urgent need for an economical and quick way of adding to the current carrying capacity of branch circuit conduits already installed. Increasing numbers of electrical appliances, air conditioning units and other equipment call for greater load on these branch circuits.

A simple solution to this problem is to replace present wiring with CRESCENT SYNTHOL Type T (formerly Type SN), which offers an easy and low-cost way approximately to double the current carrying capacity of the existing raceway.

An even greater increase in carrying capacity can be secured by wiring with CRESCENT Type TW in place of lead covered cable in wet locations.

Write for Descriptive Folder on SYNTHOL Type T and Type TW

CRESCENT INSULATED WIRE & CABLE CO.
TRENTON, N. J.

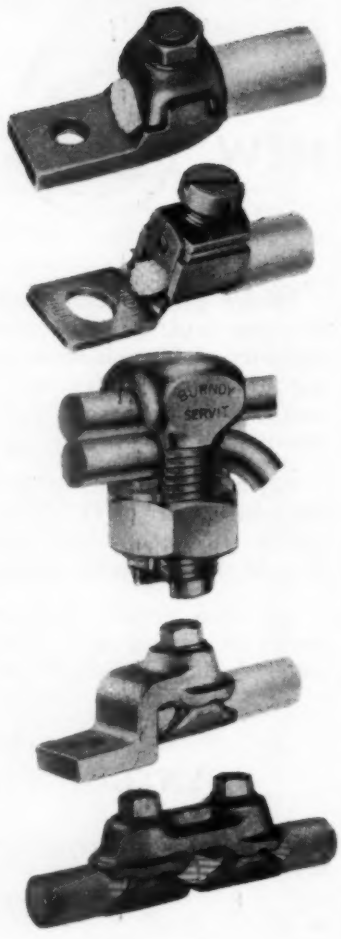
CRESCENT
WIRE and CABLE

NEMA MEMBER

IMPERIAL NEOPRENE JACKETED PORTABLE CABLES

A FAST MOVING LINE NOTED FOR...

Teamwork!



THE WINNERS are always the finest players, acting as a unit. It takes a whole team to get the ball over the goal-line.

That's what makes the Burndy line "tops" for wholesalers in the electrical connector field. It's a *complete* team, of uniformly skilled performers. All are built to the same exacting standards . . . all provide the utmost in efficiency and economy in service. So connector users, by and large, put their "dough" on the line for any and all members of the Burndy team.

Be sure you have the *whole* team working for you. Check your Burndy stocks now, and be certain they are complete. Catalog 41 for the asking. Burndy Engineering Co., Inc., 107-S Bruckner Blvd., New York 54, N. Y.

Headquarters for CONNECTORS

Burndy

APPOINTED at Easy Washing Machine Co., Syracuse, N. Y., W. Homer Reeve, left, has been named vice-president in charge of sales. Phillip P. Glassey, right, has been appointed assistant to the president, H. Paul Nelligan.

Inventory Kits For Reconversion Issued

To facilitate quick, easy reconversion inventories of industry's most widely used general purpose equipment, the Allis-Chalmers Manufacturing Co. announces that it will soon begin to distribute a newly prepared reconversion inventory kit, covering centrifugal pumps, V-belt drives, and electric motors.

An extension of Allis-Chalmers wartime aid-to-maintenance program, the kit will enable the user to determine the exact condition of each piece of existing equipment which is scheduled for peacetime production duty.

This kit, which will be distributed free, contains a set of three fact sheets, one for each type of unit, with suggestions for inventory procedure. These kits are available by request from the nearest Allis-Chalmers district office or from Dept. 561, Allis-Chalmers Manufacturing Co., Milwaukee.

Tiny Lamps in Mighty Roles

Miniature electric lamps, in hundreds of types, have been developed for the armed forces. On naval vessels alone 68 designs are used.

6,000 Tests, Then Success

Edison conducted 6,000 experiments, mostly on vegetable growth, for eight years while seeking a suitable incandescent lamp filament.

The Fast-Stepping Inspector

In war plants million-volt X-ray units check in 16 minutes the same total of steel parts that required 60 hours with low-powered devices.

The Super Brake

A small electric motor, spinning 16,000 times a minute, is halted in six turns by a new magnetic brake—equivalent to stopping a mile-a-minute automobile in 2.73 feet.

Curtis Lighting Engages The McStay Jackson Co.

Curtis Lighting, Inc., of Chicago has retained the McStay Jackson Company to assist in developing new products and to key the Curtis line to the post-war market. McStay Jackson Company will supplement the regular design staff of Curtis and will work exclusively with this company in the design of lighting equipment.

Active in the design of consumer and industrial products for 15 years, McStay Jackson Company recently received nationwide attention for its use of "Luminous" perforated metal in fluorescent fixture design.

Plans have been projected by Curtis Lighting for an extensive series of new and improved lighting units, with a distinctive treatment of style and construction.

WESCO Promotes A. P. Hammerstrom

The appointment of Arthur P. Hammerstrom as apparatus and supply manager in the central district for Westinghouse Electric Supply Company has been announced by H. I. McConnell, district manager. Mr. Hammerstrom succeeds H. E. Bracke who was transferred to the Cincinnati office.

Mr. Hammerstrom joined the Westinghouse organization after 5 years experience with the Buffalo, Niagara & Eastern Power Company. He is a member of I.E.S. and the Engineering Society of Detroit.

F. A. WRIGHT, newly-appointed assistant general sales manager of Cutler-Hammer, Inc., has been with the company since 1927. He is an electrical engineer.

HOMER O. SNOOPSHAW says:

"BURGESS LEADS THE INDUSTRIAL FIELD!"

Burgess No. Z30N popular 45-volt "B" for industrial applications

"BURGESS 2 OUT OF 3!"—that's the dry battery preference revealed in a recent nation-wide survey of manufacturer electronic engineers!

Engineers are guided by quality performance in their choice of dry batteries—that's why they prefer Burgess Industrial Batteries for the operation of vital test and control instruments. Burgess leadership means more business for you.

Burgess sells this big industrial market with ads in *Modern Industry, Electronics, General Electric Review, Factory Management and Maintenance, Instruments, Communications, Electronic Industries, Industrial Maintenance* and *Electrical Equipment*... referring battery users to Burgess distributors.

You can "lead the industrial field" with Burgess!... remember, the *complete line* means more battery sales!

Burgess Battery Company, Freeport, Illinois

HEARING AID BATTERIES

PORTABLE RADIO BATTERIES

All 4 BATTERY MARKETS are BIG!

INDUSTRIAL BATTERIES

FARM AND HOME BATTERIES

ARMY E NAVY

Loose Talk Is Still Dangerous!

BURGESS BATTERIES

Recognized as the MOST COMPLETE LINE of dry batteries

THE NAZIS HAD

A WORD FOR IT

Ersatz!

Not so long ago, lighting fixtures were made of various substitutes, held together with scarcely more than a prayer.

Some lighting products, we're told, are still made that way. But not SILV-A-KING products! Ever since Uncle Sam gave us the nod, nothing but the best of pre-war (and post-war!) materials and engineering have gone into SILV-A-KING fixtures. That's why today's SILV-A-KING fluorescent fixtures are drawn one-piece and seamless of heavy gauge steel, have a porcelain-enamel finish that will maintain initial reflectivity *and last for a lifetime*. That's why SILV-A-KING fixtures embody a host of important construction features that make for better performance . . . improved appearance.

SILV-A-KING "SPECIFICATION"

Lifetime porcelain fluorescent unit

CLOSED-END UNIT

RLM

OPEN-END UNIT

Nothing "ersatz" about this bulletin! It's No. 45FS, fully describing the "Specification" model in both open and closed types.

SILV-A-KING LIGHTING EQUIPMENT

BRIGHT LIGHT REFLECTOR CO. INC.

Metropolitan & Morgan Aves., Bklyn. 6, N. Y.

Westinghouse Announces New Fluorescent Lamps

A new 40-watt fluorescent lamp, which the manufacturer claims is tailored especially for more dependable operation of instant-start lamps, will be available soon from the Westinghouse Lamp Division, Bloomfield, N. J.

Freed from the former requirement that instant-start lamps be used with special lampholders, the lamp contains a new feature, a special tab within a medium bipin base, the manufacturer states. The tab, explained Eugene W. Beggs, lamp division commercial engineer, is riveted to the two base pins, connecting them within the lamp itself and preventing possible damage to the lamp cathodes in the event improper or defective lampholders are used.

Because of this connection, Mr. Beggs added, "the lamps will not operate on regular starter type equipment and can be used only with instant-start ballasts."

OPA Head Outlines Program For Pricing

The Office of Price Administration's five-point program for carrying out its part in the Government's plan to stabilize the national economy during the transition period, was announced last month by the agency's administrator, Chester Bowles. He called for cool heads and continued cooperation of business, workers, farmers, and consumers, to see the stabilization job through.

Mr. Bowles said that there is a "dangerous gap between sudden victory and sound prosperity—but we are going to get across it, and I believe price control is the center span in the bridge."

He continued:

"Our economic fumbling right after the last war delayed orderly peacetime reconversion for more than two years. First of all, right after the Armistice was signed, prices of some things sagged a bit under the shock of cutbacks. Three months later the prices started shooting upward with wages tagging along behind as usual.

"We weren't prepared for that inflationary spiral and we weren't able to head off the disastrous collapse that came sixteen months later. That disaster brought suffering and misery to millions of business men, farmers, workers and veterans who had come home expecting a good job. We cannot afford to fumble again.

"Very likely during the next few months, as during the winter of 1919 buying of some items may slow down while workers are shifting from war work to peace-time jobs. Temporarily

F. L. GEMMER, top, is the new advertising and sales promotion manager of the Burndy Engineering Co., Inc., and ERIC E. DEMARSH is now chief field engineer. F. E. L. Whitesell, director of sales, announced the appointments.

is may cause some prices to ease downard. Just at that stage many people y feel as they did after the Armisce in 1918 that all danger of inflation s passed. Danger, however, will hang er us until reconversion is in high ar and goods are flowing freely. If allow ourselves to be deceived by a mporary lull and if we relax our vigince, we may well lose at the very last oment the basis for a sound post-war osperity.

"Our program during the next six onths must be a skillful combination firm, courageous control in those areas here they are needed to curb inflation, gether with flexibility, speed, relief om individual hardships, and prompt deontrol when there is a safe balance tween supply and demand.

"We all are weary of the restraints and

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Auth standard bells, buzzers, pushbuttons, chimes, and similar stock signaling items are fast-moving supplies for nearly every office, industrial, residential or commercial signaling installation. Plan your stocks so you can supply your customers' needs immediately "off the shelf" with dependable, easy-to-install Auth devices.

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PROTECTED Profits!
Aggressive PROMOTION!
Distinguished DESIGN!

Vaculator
the NAME WOMEN KNOW!

Liven housewares sales with this consumer-accepted "best seller"! Fair-traded for FULL profits, backed by potent advertising in leading magazines, made with PYREX brand glass—and priced LOW to sell QUICKLY.

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DUTCH CLOTHLESS FILTER
The *biggest* "LITTLE" thing in coffee makers! Can't fall out; no cloth or paper; virtually unbreakable; fits ALL standard makes. It's *R-E-D HOT!*

50¢ LIST

FREE!
DISPENSER
STOPS the prospect; TELLS the story; MAKES the sale!

VACULATOR · CHICAGO 6, U.S.A.

This Extra Deep Socket Insures Greater Mechanical Strength plus Higher Conductivity

Extra strength, to withstand any stresses — plus extra capacity to insure minimum IR drop! That's the combination that has made these Sherman Soldering Lugs the standard of the electrical industry.

Sherman Lugs are bright and clean, too, with no sharp edges or burrs — and the contact surfaces are FLAT.

Write for catalog which gives full specifications on a wide range of sizes and styles.

H. B. SHERMAN MFG. CO.
BATTLE CREEK, MICHIGAN

Sherman HEAVY DUTY SOLDERING LUGS

restrictions and controls that have been necessary during the war period and we are not going to continue any control for control's sake, but we are going to keep a firm grip on controls that are essential to hold down the cost of living and hold down business costs."

Mr. Bowles outlined the five steps OPA is going to take:

"1. We are going to keep the lid on food prices. For nearly every American family the biggest single item of living expense is food. I think the least that the stabilization program must assure every family is that food prices will not move up.

"2. Many clothing prices are too high. However, as a result of the Government's clothing program, more and more low-priced clothing is beginning to show up in the stores. I am confident that the benefits of the clothing program can soon be spread more widely. The end of the war will sharply increase civilian supplies of most textiles. In addition, the President has ordered the allocation of scarce materials necessary for the production of low-priced items, which are essential to the continued success of the stabilization program.

"As a result I think we can be reasonably assured of a rapid improvement in the quantity and quality of clothing on the market, particularly for women and children, during the next six months, and the price is going to be right.

"3. Final victory makes machines, workers, and materials available for rapid return to the mass production of automobiles, refrigerators, vacuum cleaners, washing machines, electric irons, and many other things, which we have not been making since 1942. People who have been doing without these necessities for a long time are entitled to the opportunity of buying them at prices they can easily afford. The workers who are going to make them are equally entitled to good wages at peacetime jobs. Business is certainly entitled to expect a fair profit on a good volume of production All these objectives can be met under our reconversion pricing policy and most of the products will come back on the market at or close to 1942 retail prices.

"Our pricing policy must be flexible. Above everything else it must be administered with speed and efficiency. Business, large and small, must he relieved of all unnecessary red tape. To help accomplish this reconverting firms doing under $200,000 worth of business a year will operate under automatic pricing procedures.

"Individual adjustments for companies both large and small must be made to fit unusual conditions.

"For speedy handling, fully 90 per cent of all individual firm price adjustments will be delegated from Washington to

IVAN W. STRONG has been placed in charge of the Indianapolis territory for BullDog Electric Products Company succeeding the late Homer Riddell. Strong received his engineering degree from Purdue in 1940, since then was supervising electrical engineer with Allison Division of General Motors.

our field offices. Procedures will be streamlined so far as feasible.

"4. Families who live in rented dwellings must be protected against any unnecessary inflation of rentals. Millions of workers are going to be looking for new places to live. Returning veterans and the wives will need houses or apartments while they are getting re-established in their civilian lives. To safeguard their futures we are going to hold rent controls firmly until tenants have the opportunity to bargain with their landlords as they did before the war. We will be able to lift area rent controls section by section as soon as there are enough dwellings in each area to satisfy the demand for living quarters.

"We have been alarmed by the growth in the number of workers who have been evicted from their homes on flimsy pretexts. Soldiers' wives have been told by their landlords that they either had to buy the home at inflated prices or get out. These unfair practices must be halted at once. They have added one more great measure of insecurity in the lives of too many people.

"We are determined to take vigorous action to put a stop to trumped up, heartless evictions. We have called in the real estate trade for immediate consultation to consider particularly changing the period required for notice of eviction from 90 days to six months. A specific program putting our plans into action will be released in about two weeks.

"Our forthcoming program of dollar-and-cent prices on many building materials and services will help landlords to maintain and build dwellings at costs that will keep present rentals profitable. This program will also help keep rentals from being forced to abnormally high levels from which they would have to crash later.

"Our building cost control program will

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VAPOR PROOF UNITS
now made in Aluminum
NO PRIORITY REQUIRED

- No. 2800 at left has a cast aluminum hood tapped for ½" pipe. For 60-100 watt lamp.
- The 2804 for 150-200 watt lamp.
- The 2802 at right is an outlet box type and can be mounted on either a 3¼" or 4" box. For 60-100 watt lamp.

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Ready . . . . .
for Immediate Shipment
NO PRIORITY REQUIRED

#8972 — 12" Porcelain Enameled Reflector
#8974 — 14" Porcelain Enameled Reflector

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- For REA Installations

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"B. F." (before flourescent), in fact as far back as 1933, GARCY's booklet on incandescent architectural lighting showed lighting equipment similar to today's leading fluorescent installations.

Such GARCY trade names as "Fluor-A-Case" (for display lights), "Lumi-Glass" (for signs) and "Add-A-Strip" (for strip lighting) have earned wide acceptance in commercial fluorescent lighting. Thousands of installations in stores, banks, offices, hospitals and factories provide brilliant evidence of GARCY leadership and quality.

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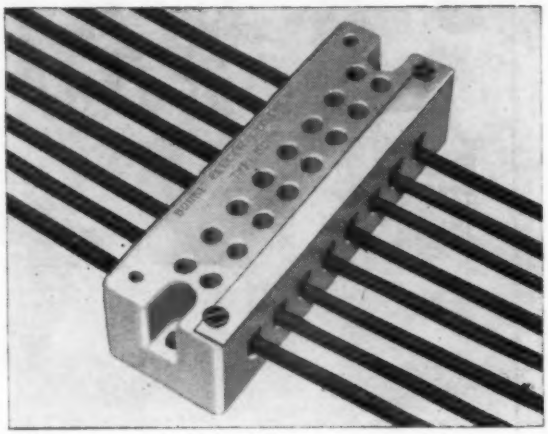

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BURKE *Terminal* BLOCKS
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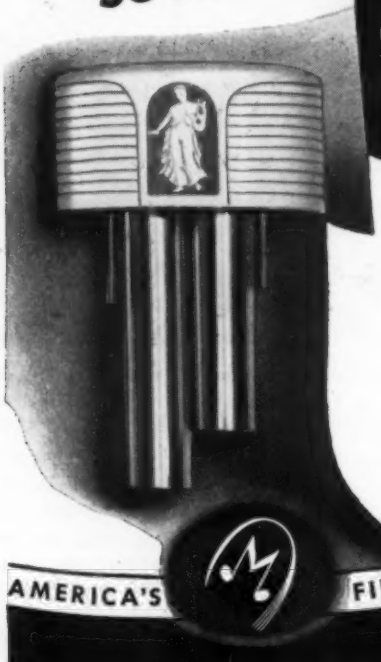
AVAILABLE SOON . . . . NEW *Mell-o-Chimes*



. . . backed by **NEW MERCHANDISING COOPERATION**
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POPULAIRE and SYMPHONIQUE

Nation-Wide Distribution Through Leading Wholesalers

AMERICA'S FINEST ELECTRIC DOOR CHIMES

MELL-O-CHIME AND SIGNAL CORP.
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also protect millions of soldiers and wa workers who have been dreaming o building a home of their own. This pro gram will help city and state govern ments provide schools, hospitals, health centers, and public buildings at reasonable costs to taxpayers. It will help keep tax rates and public debt burdens down.

"5. In our efforts to hold down the costs of food, clothing, reconversion goods and rentals during the transition period, we want as few rules and regulations as possible. All unnecessary regulations will be weeded out. But the rules that stay to guide us through the dangerous period must be vigorously enforced. Let there be no misunderstanding of OPA's intention to vigorously enforce the price and rationing controls as long as they are on the books. If we did anything less, we would be denying the public the safeguards which the stabilization program promises. If we did not see to it that black markets are rounded up and given stiff jail sentences, honest business men would be denied their rightful protection from unscrupulous competitors. Our enforcement actions will be stepped up to the limit of our manpower, and the weight of our enforcement will be shifted to price control as we are able to drop rationing programs one by one. The Attorney General has told me that OPA will receive the fullest support of his office in carrying out its enforcement program."

WPB Orders

TRANSITIONAL PRIORITY RULES OUTLINED BY WPB

After September 30, the skeleton priority system to be in effect will be that outlined by the War Production Board on August 21, in revisions of Priorities Regulations Nos. 28 and 29. The text follows in part:

(*Priorities Reg. 29, as Amended Aug.* 21, 1945)

REVISED PRIORITIES SYSTEM

Section 944.50. *Priorities Regulation 29 is amended to read as* follows:

Scope

§ 944.50 *Priorities Regulation 29 — (a) — What this regulation does;* This regulation describes the accelerated transition to a revised and simplified priorities system. The system previously announced in Priorities Regulation 29 to take effect on Jan. 1, 1946, was designed to insure the continuing production of military and other essential re

quirements for the Japanese war. Victory over Japan has reduced military requirements to such an extent that the previously announced system is no longer appropriate. There are four principal features of the modified system as explained in this regulation: (1) the new system will become fully effective on October 1 instead of January 1 as originally announced; (2) WPB is introducing a new non-extendable "CC" preference rating which will be used in individual cases to assist reconversion and insure the continued fulfillment of essential civilian and export needs; (3) the MM rating originally introduced for military use will be continued for the time being to support the requirements of the occupation forces and other continuing military needs; (4) Priorities Regulation 30, which provided for direct assignment of MM ratings by WPB under certain circumstances, has been revoked. There will also be changes in other orders and regulations of the WPB. It may not be practicable to make all such changes before this regulation is published and if there is any inconsistency between this regulation and any other regulation or order of the WPB, this one controls unless the other expressly states the contrary.

New Rating Pattern

(b) . *General description of new rating system.* The present system of AA ratings (AA-1, AA-2, AA-2X, AA-3, AA-4 and AA-5) and the Controlled Materials Plan will be discontinued on September 30, 1945, and will be replaced by the following:

(1) The AAA rating will still be assigned in emergencies as under existing procedures.

(2) The new MM rating will be assigned by the Army and Navy and other military agencies. WPB Directive 41 and other WPB Directives will explain the rules governing the assignment of ratings by those agencies. The WPB will not generally assign the MM rating directly to manufacturers, and Priorities Regulation 30 which was issued for that purpose has been revoked. In a few instances the WPB may assign MM ratings directly for specific items and quantities of materials or equipment, but this will be

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MAINTENANCE · REPAIRS · OPERATION

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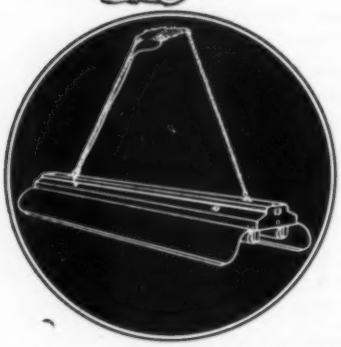

Easy and simple to install. Simply make wiring connections—screw the hanger to the outlet box—then hang the fixture. No toggle bolts or other fastening arrangements necessary.... Self grounding—2-wire cord and plug may be used. Fits on standard 4-in. or 3¼-in. outlet box or plaster ring.

$1.50 LIST PRICE

Complete with two 5-ft. chains, cord clips, "S" hooks and receptacle.

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done only where, it is clearly necessary for requirements of high urgency. Do not apply to WPB for an MM rating unless it is specifically announced by a direction to this regulation or other formal action of the WPB that WPB will assign it.

(3) The new CC rating will be assigned as described in Priorities Regulation 26. That regulation describes the limited conditions under which WPB may assign the CC rating for any purpose, except actual military procurement. The new CC rating is not extendable except as explained in paragraph (g) (2) at the end of this regulation, and in Priorities Regulation 3.

(4) The rules for the acceptance and filling of rated orders and the use of ratings are the same for the MM ratings as for ratings in the AA series, except as otherwise stated in this regulation or other orders and regulations of the WPB. During the period from July 1 through Sept. 30 the MM rating is equivalent to AA-1 and the CC rating is equivalent to AA-2.

(5) The AA rating system will be retained for the time being for procurement of textiles and allied products. The use of AA ratings for these products and the use of MM and CC ratings is explained in Direction 18 to Order M-328. It is not expected that the AA rating system will be retained for any other products. However, if it is retained, the orders controlling these products will be amended to make clear that some of the provisions of this regulation do not apply to such materials.

AA Rating Exit

(c) *Expiration of AA ratings.* (1) The AA rating system remains effective as to deliveries between now and the end of September, 1945.

(2) Effective immediately, all preference ratings in the AA series are canceled on purchase orders calling for delivery after Sept. 30. Suppliers must disregard any AA ratings on purchase orders for delivery after Sept. 30 which they have received or which they may receive, and must treat such orders as unrated.

(3) WPB will discontinue immediately the assignment of AA ratings

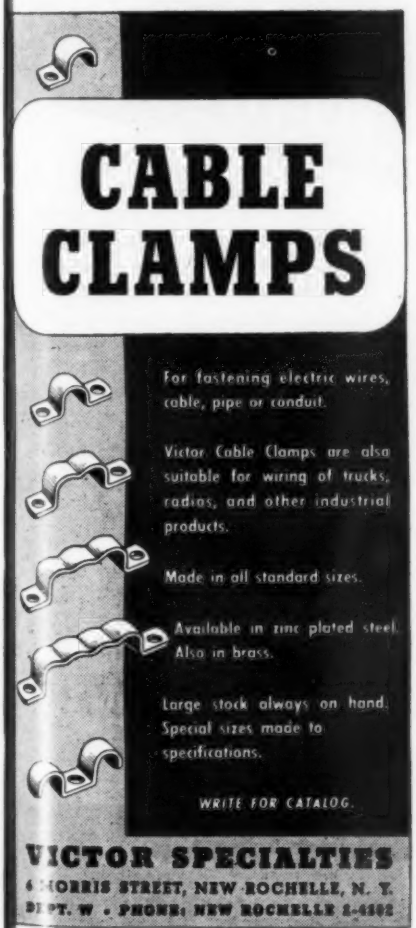
for delivery after September 30.

(4) Orders bearing AA ratings identified as military orders will not be automatically re-rated MM as previously provided in this regulation. Most of them have already been unrated, as explained in Direction 1 to this regulation. Other military orders with AA ratings which call for delivery after September 30 must be treated as unrated orders in the same way as all other orders bearing ratings in the AA series. Some orders may be specifically re-rated MM or CC, but a supplier must not assume that this will be done and must treat the orders as un-rated unless a specific re-rating is received.

End of CMP

(4) *End of Controlled Materials Plan.* (1) On October 1, the Controlled Materials Plan and all regulations and directions issued under it (except inventory restrictions) will automatically expire, including directions or directives issued before August 21, 1945, to individually named controlled materials producers, warehouses, or distributors.

(2) Until the end of September,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For cleaning motors, generators, armature field coils, controllers and other electrical apparatus. Streamlined to hose—"finger-tip" control—no buttons —no levers.
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TWO QUICK SQUEEZES give you Finer, Faster Conduit Connections. B-M Fittings do away with the twisting, turning and tightening of nuts and save you valuable time and materials. Then too, they are stronger, neater and much easier to work with in tight places. Start using B-M Fittings today. Have more satisfied customers—more profits from each job!
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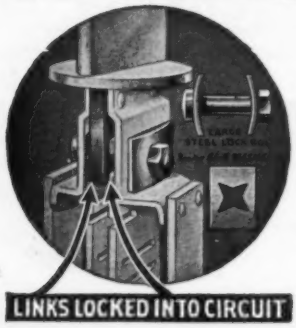

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deliveries of controlled materials will continue to be regulated by the Controlled Materials Plan alone and not by ratings. However, an order for controlled materials rated AAA, MM, or CC is to be treated as an authorized controlled material order.

(3) Effective immediate, all fourth quarter and subsequent allotments of controlled materials are canceled. Controlled material producers and warehouses must treat every authorized controlled material order for fourth or subsequent quarter delivery as an unrated order, unless it is specifically re-rated AAA, MM, or CC.

(4) Authorized controlled material orders identified as military orders will not be automatically re-rated MM as previously provided in this regulation. Most of them have already been unrated as explained in Direction 1 to this regulation. Other authorized controlled material orders which call for delivery after September 30 must be treated as unrated orders in the same way as all other authorized controlled material orders. Some orders may be specifically re-rated MM or CC, but a supplier must not assume that this will be done and must treat the orders as unrated unless a specific re-rating is received.

ASSOCIATION NEWS

DETROIT—The chairman of the New Products—and Uses Committee of the Electrical Association of Detroit gave an account to the Board of Governors of the work his committee has done on the subject of "Television." From reading many articles that have appeared in various publications regarding television, the committee has tried to assemble what would be the opinion of the experts in this field. The questions covered on this subject were: Is Television Ready to Be Applied As a Broadcasting Service?; How Soon Will It Be Applied Nationally?; How Will It Be Applied?; The Receiver; Programing; The Effect of Television on Electrical Industry.

"All in all," says the report, "it would seem to be the opinion of the majority that television broadcasting will come along rapidly after the war requirements for material have decreased and that within a period of 10 to 15 years it will be possible for nearly every individual in this country to own a receiver and receive programs.

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P&S BAKELITE PIN-TYPE SOCKETS

You can't go wrong when you specify P&S No. 5464.

These Pin-Type sockets are applied directly to the wire without stripping. Sharp pointed screws pierce the insulation and make positive contact with the wire. The socket cap (equipped with easy-turn projections) screws down tightly and makes a firm installation. Sockets may be disconnected and used again.

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BUFFALO—As a joint conference meeting of the Niagara Frontier Electric Association and the Detroit Electric Association, held at the Buffalo Athletic Club, Robert D. Glennie, president of the Niagara Frontier Association said, "Although most of us are still active in war industry, we think it is time to get started on post-war plans."

Detroit plans, according to President A. A. Togeson of the Detroit Association, emphasize adequate home wiring and veteran re-employment.

"Specifications for home wiring—the proper number of outlets, correctly placed—have been prepared so that houses will be equipped for the coming electrical devices," he explained. "In veterans' re-employment, we have planned a training program which will cover all phases of the electrical industry, including business administrations, in co-operation with the Board of Education, VFW and American Legion."

Although many types of electrical equipment may not be available to civilians for several months, the postwar aims are "more goods for more people at less money" and the creation of jobs, Mr. Glennie said.

The Niagara Frontier Electric Association has been revived after a period of dormancy resulting from the war.

Lighting

Modern lighting in the tradition of scientific engineering.

Our individually designed units combine the architect's interpretation of decoration with two decades of sound design, development and manufacture in the lighting field.

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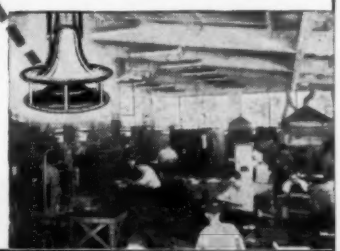

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Automatic bayonet lock with either manual or combination manual and automatic release protects equipment and wiring. Wide range of plug shells, receptacles and cord connectors available in the complete Triploc line, ratings up to 20 amperes, 250 volts D.C., 460 A.C. Consult your Pylet catalog for complete listings.

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THE PYLE-NATIONAL COMPANY
1352 N. Kostner Avenue, Chicago 51, Illinois

NEW ORLEANS — The Electrical Association of New Orleans is sponsoring "The Better Living Home" program which is designed to build business for the entire industry.

One of the main features of the program is a contest to promote the installation of appliances, particularly those which are less generally accepted such as the dishwasher, garbage disposer, ironer, automatic laundry, adequate ventilation, air conditioning, adequate wiring, quick freezing, and frozen food storage, adequate home lighting, including bactericidal lamp, sun lamp, and infra-red lamp.

The contest will bring to the attention of practically every family in greater New Orleans the advantages of these less accepted electrical conveniences.

The contest calls for essays, not to exceed 250 words on "The Electrical Appliance I Have Chosen to Make Mine a Better Living Home." It should describe the entrant's reasons for selecting the appliance most desired in her postwar home.

To the 50 successful contestants prizes will be awarded (for delivery and installation when they may again be secured); they will include—a complete better living kitchen; sink with dishwasher and garbage disposer; washing machine; ironer.

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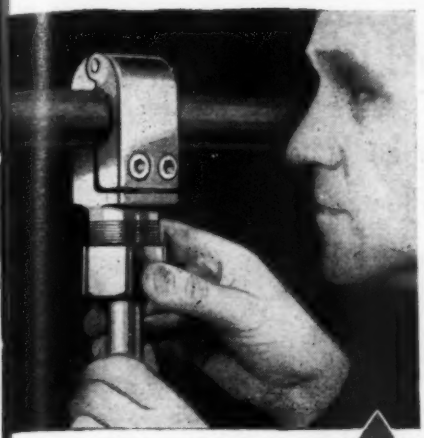
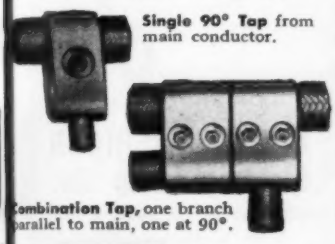


It's Easy to pick the right CABLE TAP— from the *Complete* line

You'll find the widest variety of parallel and 90° taps, combinations, and gutter taps — in a range of sizes up to 1,000,000 cm. Insulating Bakelite covers can be furnished for all types.



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Combination Tap, one branch parallel to main, one at 90°.

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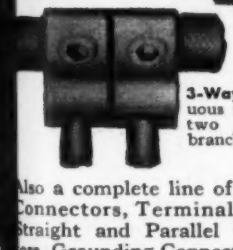

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PENN-UNION
Conductor Fittings

MORE FACTS ON PRODUCTS

Appliances—A 20-page booklet, entitled, "How to Plan Now for Better Living," is published by Landers, Frary & Clark, New Britain, Conn. The booklet, available for dealer distribution, is divided into 6 categories dealing with the cooking and serving, storage and preparation, cleaning and dishwashing, home laundry, cleaning equipment and health and comfort areas of the home and the appliances and housewares used in such areas.

When writing mention WHOLESALER'S SALESMAN

Fan Equipment—Bulletin 1601, published by the Hartzell Propeller Fan Co., Piqua, Ohio, contains illustrations, descriptive data, specifications and diagrams of the company's line of "Tubeaxial" and "Vaneaxial" type fans and blowers.

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Frequency Meters—New uses for vibrating reed frequency meters are described and illustrated in bulletin VF-43-1C published by J-B-T Instruments, Inc., New Haven, Conn.

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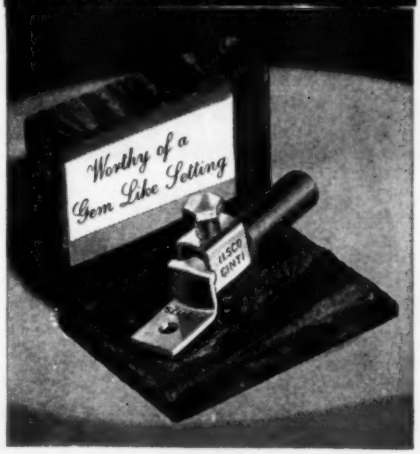

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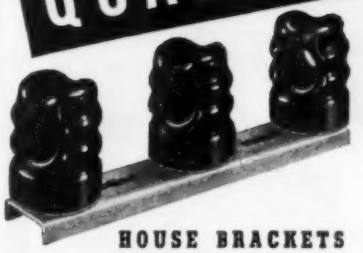

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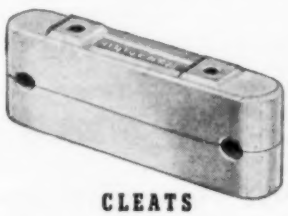

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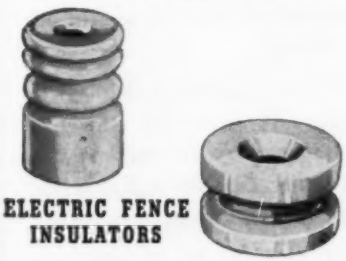

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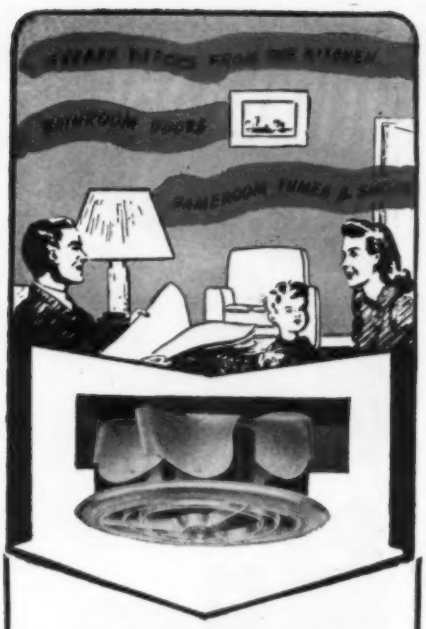

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Fluorescent Fixtures — Day-Brite Lighting, Inc., St. Louis, Mo., has published bulletin F-47 which contains illustrations and installation data on the company's line of single-type fluorescent troffers and fluorescent troffers used for continuous runs. Also published by this company is an advanced data sheet, No. 501, containing description data, illustrations, and list prices of the Day-Brite Liteways (formerly called exposed troffers).

When writing mention WHOLESALER'S SALESMAN

Fluorescent Lamp Ballast—Bulletin 167-A, published by the Acme Electric and Mfg. Co., Cuba, N. Y., contains specifications, dimensions and wiring diagrams of the company's fluorescent lamp ballasts. Bulletin 165 describes and illustrates cold cathode lamp ballasts manufactured by Acme Electric.

When writing mention WHOLESALER'S SALESMAN

Fluorescent Lighting—The Edwin F. Guth Co., St. Louis, Mo., has available data sheets, No. 780 to 783 which have been prepared to aid in laying-out good illumination for school classrooms. Two folders are on shielded direct lighting and two are on luminous-indirect. Various lighting plans are illustrated; and fixture types are described.

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New York 18, N. Y.

Motors and Control— A twenty-eight page bulletin, GEA-4131, entitled "Motors and Control for Hazardous Locations," has been published by the General Electric Company, Schenectady, N. Y. The bulletin contains a historical sketch of GE's development of the "explosion-proof" motor; tells how to apply this equipment and explains what hazardous locations are.

When writing mention WHOLESALER'S SALESMAN

Television—A 16-page booklet entitled, "Intra-Tel Systems," has been prepared by the Transmitter Division of the General Electric Co. The brochure describes in detail a television system for use by department stores, and gives the initial cost and yearly operating expense based on pre-war prices for a typical system.

When writing mention WHOLESALER'S SALESMAN

Tools—Two bulletins are now available from the Products Engineering Co., Beverly Hills, Calif., covering its line of tools: the self-adjusting toggle lamps, A. S. A. drill bushings, machinists tools and gages which include depth micrometers, surface gages, screw pitch gages, thickness gages, etc.

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